The Builder.

VOL. LIV. No. 2368. SATURDAY, JUNE 23, 1888.

ILLUSTRATIONS.

Perspective View of Design submitted in Edinburgh Municipal Buildings Competition.—By Mr. H. H. Statham, F.R.I.B.A., and Mr. John Slater, F.R.I.B.A. ..... *Double-Page Typo-Gravure.*
Elevations and Detail of the before-mentioned Design ..... *Double-Page Photo-Litho.*
Episcopal Residence and Clergy House, St. George's Cathedral, Southwark.—Mr. F. A. Walters, F.S.A., Architect ..... *Single-Page Photo-Litho.*
Cottages, Banstead, Surrey.—Mr. Herbert D. Appleton, F.R.I.B.A., Architect } *Single-Page Photo-Litho.*
House, Sundridge Avenue, Chislehurst.—Mr. Herbert D. Appleton, F.R.I.B.A., Architect }
Reading-Room, Ashton-on-Mersey, Cheshire.—Mr. George Truefitt, Architect ..... *Single-Page Typo-Gravure.*
St. Martin's Church, Ashton-on-Mersey, Cheshire.—Mr. George Truefitt, Architect ..... *Single-Page Typo-Gravure.*

Blocks in Text.

House at Beckenham.—Mr. Ernest Newton, Architect ..... *Page* 446
Competition Design for Edinburgh Municipal Buildings: Plan, Sections, &c. 449, 450, 451
Plan of House, Sundridge Avenue, Chislehurst 451
Plan of Cottages, Banstead, Surrey 451
Plan of Reading Room, Ashton-on-Mersey 452
Hydraulic Derrick Crane 454

CONTENTS.

The Recent Canal Conference 441
Notes 442
The Congress of French Architects 444
Architecture at the Royal Academy.—Concluding Notice 445
Prizes, Architectural Association Lectures 445
House at Beckenham 446
The Board of Works Commission: More Evidence 446
The Greek and Roman Theatre 448
Competition Design for Edinburgh Municipal Building 448
House, Sundridge-avenue, Chislehurst 451
Episcopal Residence and Clergy-house, St. George's Cathedral, Southwark 451
Cottages, Banstead, Surrey 451
Reading-room, Ashton-on-Mersey, Cheshire 452
St. Martin's Church, Ashton-on-Mersey, Cheshire 452
The Carpenters' Company and Technical Education: Examinations for Foremen and Clerks of Works 452
Architectural Association Visits.—Bramshill, Hampshire 452
Association of Municipal and Sanitary Engineers and Surveyors: Yorkshire District Meeting at York 452
Obituary 453
"Dry Rot" 453
Linoleum on Floors 453
Hydraulic Derrick Crane 454
The Student's Column: Iron 454
Recent Sales of Property 455
Meetings 455
Miscellanea 455
The Artists' Benevolent Fund 456
Prices Current of Materials 456

The Recent Canal Conference.

THE changes in the local administration of the main roads of the country intended by the Local Government Bill, and the proposed regulation of the conditions of railway traffic by the Bill in that behalf now before Parliament, have induced the Society of Arts to draw special attention to inland navigation by rivers and canals, which, if they can be placed on an improved basis, may again become of material value to the country; and on the 10th and 11th of May fifteen carefully-prepared statements were made by practical men who have a complete knowledge of the subject, setting forth the present conditions of canal communication in this country and abroad and offering most valuable suggestions for its improvement; for the system of management of the railways has almost destroyed the more humble but not less useful means of carriage for goods which do not require to be delivered with speed, and the transit of which by railway has become so expensive as to interfere unduly with trade. The cost of carriage is so important an element in the trade of the country that it is now necessary to put the waterways into a condition to afford the relief required by the national industries under the new conditions to which they are exposed by Continental competition, and the chief object of the Conference was to point out how that can best be done under the present condition of the canals, which, it is well known, are in a most unsatisfactory state, both to those engaged in trade and agriculture and to the canal companies themselves.

The practical question is how the canals can be made to meet the necessity of cheap transit. Some of them are in good condition and of great use and importance, more so now in some cases than ever they were, but these are isolated by the influence of the railway companies, who have got possession of the intervening portions and bar the way of through traffic *viâ* the waterways which connect inland industries with the ports. When the canals were made which unite the four great rivers, Thames, Mersey, Severn, and Trent, trade increased in every direction; for perhaps the first thing, after law and order, in the promotion of trade, is cheap internal transit. The real prosperity of England dates from the period of canal development and enterprise. Raw materials, manufactured goods, and produce of all kinds were easily transported by canal at reasonable charges. The Thames, the Severn, and the Mersey were connected by 648 miles of river and canal, the Thames and Humber by 537 miles, the Severn and Mersey by 832 miles, and the Mersey and Humber by 680 miles. The Fen waters have an extent of 431 miles, and the remaining canals of England and Wales amount to 1,204 miles. There are three routes between London and Liverpool,—245, 263, and 269 miles; two between London and Hull, 289 and 323 miles; four between London and the Severn ports, 180, 180, 178, and 224 miles; two between Liverpool and the Severn ports, 164 and 187 miles; three between Liverpool and Hull, 188, 158, and 146 miles. From the South Staffordshire mineral district to London there is a water communication of 163 miles. From the same district to Liverpool there are two routes, 106 and 89 miles. From the same district to Hull there is a water communication of 179 miles, and to the Severn ports three routes, 86, 86, and 95 miles; and there are other main lines of canal.

The difficulty in all of them is that the gauge is not uniform. In some, the middle portions afford lock-accommodation for boats larger than the ends of the canal will admit; in others, the reverse is the case, a large boat may go part of the way, but cannot get through, and trans-shipment of goods is, of course, in all cases disadvantageous. How has this heterogeneous state of things arisen? it may be asked. The story might be told, satisfactorily accounting for it, however unsatisfactory the result, but the story would be a long one. It shall suffice to say that although the railway companies have done much to render the canal traffic inconvenient, yet the canal companies have done much also, by want of enterprise, which, however, cannot be wondered at, when the powerful opposition of the railway interest is considered. Clearly the Legislature never ought to have sanctioned the control of canals by railway companies, although petititioned to do so in some cases by the canal companies themselves. The remedy now is to reform the administration of the canals throughout the country. The fault does not even lie altogether with the railway and canal companies, or with the Legislation in 1846, when most of the mischief was done in this respect; it began much earlier, that is, before the middle of the last century, when canals began to be made. It is curious that it was not earlier perceived that it was desirable to maintain rivers in navigable condition in their lower parts by removing the *débris* which must always have come into them from the lands above, washed down by continual rains; yet it is this former neglect which is the origin of many of the difficulties of the present time, for instead of removing the shoals in rivers the boats were made shallow to pass over them, in the efforts to get the boats farther up the river courses from time to time. When canals came to be made, to extend the river traffic inland, it was convenient to use the same boats, and the dimensions of the canals and locks were made accordingly, and as the boats were shallow so was the depth of water in the canals and on the lock-sills provided for them; and as some of these boats, though shallow, were wide, so were some of the locks made wider than others; the boats in use on the river with which each canal communicated formed the gauge for the locks.

It is sometimes said that commercial affairs can be better carried on without the interference of legislation, and that they should be merely left alone. According to this doctrine, there should have been, as there was, no interference with what each canal company pleased to do in its own interest. When it was found that the river-boats to be admitted drew in one case 3 ft. of water, in another, 3 ft. 6 in., in another, 4 ft., and so on, the canal companies were left to their own resources; and, although they may have seen the desirability of dredging the shoals of rivers, and regulating the draught of water of the boats accordingly, they had no power to carry out anything of that sort, beyond their own jurisdiction; and as to the variety of gauges of canal locks, it was of no immediate interest to any one canal company what another might do with which it had no communication.

In now making the main lines of canal of uniform gauge, if done at all, it should be on a scale suitable for haulage of the boats by steam power, in order to decrease the cost per ton per mile, and increase the speed. It is not possible to increase the speed, even with steam power, to more than about twice the present rate of travel; that is, from two or three miles an hour to four or five miles an hour, because a greater speed creates too much disturbance of the water, and washes the banks, if the slopes are left as they were formed; but where steam haulage has been applied, dwarf walls are built along the water's edge on the towing-path side, which protects the bank, and at the

same time affords more lateral room for boats in passing each other. More room would have to be given in passing under bridges,—at least, laterally, if not in height. The depth of the main lines of the canals would have to be increased, and most of the locks reconstructed, or superseded by inclines, or by vertical hydraulic lifts. Both inclines and vertical lifts, as means of changing from one level to another, have been already adopted, and the working and its cost are all known. There would be little or nothing new or experimental required in overcoming changes of level in various parts of a canal system, where it might be desired to improve the present locks; but it is only where the change of level is a great one, and which, in the old system, is effected by a flight of locks like a stairway, that either vertical lift or incline need be adopted; at all the small changes of level single locks would still be used. But even where the difference of level between one length of canal and the adjoining one is great, it would not be absolutely necessary to adopt either lift or incline; for, on the Leeds and Liverpool Canal the great flight of locks at Bingley continues in use, and the prosperity of that canal is undoubted. Since it has been independent of railway control, for the last fourteen years, the rate of toll and carriage of goods have been reduced, and it now pays a dividend of twenty-one per cent., according to the evidence of Mr. Bartholomew, the engineer and manager of the Aire and Calder Navigation, given before the Select Committee on Canals in 1883; notwithstanding that at Bingley the change of level effected by this congregation of locks is as much as 88 ft. 8 in., according to Priestley's historical account of canals. The width at the top-water level of most of the canals is from 30 ft. to 36 ft., and the depth from 4 ft. to 5 ft. The depth of the Aire and Calder Navigation, which connects Goole with Leeds and Wakefield, is 9 ft.; but whether, as in this one, the construction of canals of sufficient capacity to pass craft suitable for coasting and short Continental voyages would be desirable, is a debatable question, for it would involve a large capital expenditure which might not everywhere be consistent with commercial success.

The present dimensions, however, are decidedly too small for economy of working and management, and do not afford facilities for the use of modern means of traction. Probably the best dimensions to adopt would be a multiple of the present size of lock which prevails throughout the Midland district, as it would enable the existing craft on those canals, and also most of the barges on larger navigations, to be used in the most economical way, and would greatly simplify the management. The small locks at present in use pass boats 70 ft. long and 7 ft. wide, and the larger locks a barge of the same length, or rather longer, and 14 ft. wide, or two of the narrow boats at the same time; and with regard to length and width these larger locks might still continue, but the depth, 5 ft. on the sill, is insufficient, and should be made at least 7 ft.; and as the depth must be increased it is considered on the whole that it will be expedient to increase the length also and to make the locks of sufficient dimensions to pass at one time either two barges or four narrow boats, which would require a length of 160 ft., a width of 14 ft. 6 in., and a depth of 7 ft. on the sills, carrying 130 tons of cargo in four bottoms, or two barges carrying 140 tons in two bottoms, one of which would be the steam barge; or, again, one steam vessel carrying 140 or 150 tons in one bottom. Thus, a great variety of requirements would be provided for by these dimensions; and they would allow of the use of the present narrow boats, in which there is a distinct advantage, as a local coal merchant, for instance, could purchase small boat-loads of different sorts of coal to suit his customers, but could, perhaps, not find capital and wharf room for large cargoes of one class of coal only, and this would apply equally to traffic in road-stone, bricks, drain-pipes, building materials, and many other kinds of undamageable goods; these small craft might also ply successfully on short branch canals in districts which would not produce a sufficient traffic to warrant a large expenditure in improvement. The main lines of canal would be increased in width to 45 ft. at the top-water level, having a bottom width of 21 ft. and a depth of 8 ft., with side walling on the towing-path side 3 ft. below the top-water level. The waterway of the main lines of canal should be, as the dimensions named would be, sufficient in every part to enable boats to pass each other, but there would be no necessity for a large expenditure of capital for this purpose on branch lines, as the traffic can be easily regulated by telegraphic communication. No high rate of speed should be aimed at, for it could only be attained by a waste of towing power in waterways of restricted sectional area; and although the works must be substantial, they must be plain; the result of improvement must be greater commercial utility combined with a fair and reasonable return for capital expended.

The first thing to be done, however, is to agree upon the mode of procedure to enlarge the canals at all, for those belonging to canal companies independent of railways cannot be enlarged without aid from the Government in some way or other, and the question just now is in what form the case shall be put before Parliament. The first resolution proposed the other day was that "In the opinion of this Conference the Society of Arts will render national service by endeavouring to secure the appointment of a Royal Commission to consider the utilisation of the river-basins of the United Kingdom, and their water-links"; which was proposed to be altered to, "In the opinion of the Conference, the Society of Arts will render national service by endeavouring to secure the appointment of a Royal Commission or a Select Committee to consider the subject of inland water navigation." But inasmuch as it was considered that a reference to a Royal Commission would merely be the means of shelving the question, it was resolved "That the Legislature should seriously consider the necessity of encouraging and assisting the improvement and extension of the canal system by state acquisition or otherwise; and that meanwhile the Conference urges the Council of the Society of Arts to petition the House of Commons for the Amendment of the Railway and Canal Traffic Bill by authorising local authorities to constitute public trusts for the development of the existing system of canals."

The Canal Committee of the Birmingham Corporation a few weeks ago instructed the Town Clerk to petition the Board of Trade to this effect, but, we are surprised to learn, the Town Council has since refused to confirm the recommendation of their committee. There is probably a temporary misunderstanding of the matter by some of the town councillors, for of all places we should have expected Birmingham to be the first to support such a measure. Trade, it is said, is already leaving the district,—for what reason nobody should know better than the Town Council,—and, as we said some time ago, it is shortsighted policy of the owners of property in a town to let trade depart and industries decay for want of the necessary means of transit; and if the want of prosperity is the want of water communication with the rest of the country, the Town Council would do well to take a more comprehensive view of the situation of affairs than they appear to have done recently.

NOTES.

THE Fine Art Section of the Italian Exhibition, important in regard to the number of works exhibited and the space occupied, can hardly claim importance in any other sense. If we are to assume that the collection of paintings here represents at all fairly the contemporaneous state of Italian painting, the art is indeed at a low ebb in the country which was once glorified by the presence of a crowd of great painters: and the sculpture is in one sense an even more depressing exhibition, from the positive and rampant vulgarity of idea and style which pervades it. Among the paintings, the prevalent impression is rather that of feebleness and dulness. We do not know when we remember to have seen so many absolutely uninteresting and mediocre paintings together; indeed, "mediocre" is a very mild expression for many of them. The authors of some of the prominent paintings seem quite unable to cope with the most ordinary problems of perspective; see, for instance, the locomotive in the foreground of the large picture of Milan Railway Station, by Signor Morbelli, one of the artists who is "cracked up" in the preface to the catalogue; the engine is foreshortened in a manner completely at variance with the perspective of the main lines of the painting. Signor Morbelli, however, has produced by very much the two best pictures we saw there, "The Viaticum" (374), and "The End (the Trivulzio Charitable Institute at Milan)" (439). The particular point of the scene it is not easy to make out from the titles; in the first a number of old men are kneeling with their backs to the spectator, apparently expecting the news of the death of some one who is not seen; both pictures appear to refer to the same place, and contain a number of figures of aged men painted with much feeling and character; but these two works are quite above the average level of the collection. Among one or two others that we noticed as better than their companion works are "Solitude" (335), a landscape by Signor Mariani Pampeo; "Grief" (322), by Signor Spreafico, a scene in a Campo Santo with figures returning from a funeral; "Watering Cattle" (532), by Sig. C. Pittara; "Venetian Alps" (651), a broad powerfully-painted view of buildings in Venice in a warm light. This latter shows a feeling for colour which is strikingly absent in the great mass of the paintings; we have seldom seen such a prevalence of bad, crude, and what may be called dirty colouring in a large collection of paintings. The sculpture is far superior to the painting in technique; in fact, in this respect there is a great deal of excellent work, but the vulgarity of taste as to sculptural subjects which is displayed is something appalling. Sig. Monteverde's "Jenner's First Experiment in Vaccination" is, no doubt, a really fine work, but that was executed many years ago, and does not represent the art of the present moment. There are some beautiful and expressive ideal heads, such as "Seducta—Seduxit" (27,—the Italians seem to study "puzzle" titles for their works), by Sig. Maioli, and "Odalisca" (38) by Count Oldofredi, and others of the same kind of excellence may be found scattered up and down a very large collection. But the predominant taste is for realistic figures with trousers or dresses or lace worked down to the minutest detail, and for grotesque subjects, grinning heads of ugly old men and so on. In the central position is a huge sculptured chimneypiece design, called "Decus Pelagi," representing rocks, &c., and a nude woman with a fish's tail apparently in the toils of a gigantic octopus, which we take to be the most monstrous and detestable thing in the way of decorative sculpture that we have ever set eyes on.

THE Railway Companies' Association have, apparently, succeeded in causing alarm at some of the ports by their gloomy prophecies as to the effect of the "preference rate" clause of the Railway and Canal Traffic Bill. The President of the Board of Trade received a deputation last week from the Newcastle Corporation and the Tyne Commissioners, who complained that the effect of the clause as it stands will be to divert a great portion of their import traffic to Hull. The latter port is nearer to Manchester and many other inland places, but Newcastle has hitherto been able to secure a good share of the traffic, owing to the railway companies charging substantially equal rates from both ports. Sir Michael Hicks Beach, in reply, assured the deputation that their fears were exaggerated, and that low rates for traffic carried under exceptional conditions would not necessarily be prohibited by the Bill. He pointed out that if the quantity of foreign mer-

chandise was very much larger, and there were differences in modes of collecting, &c., sufficient to justify more favourable rates than those in force for small quantities under ordinary conditions, the granting of lower rates would not constitute undue preference. He made it clear, however, that the Government were not going to sanction a difference in favour of foreign merchandise simply founded on the fact that it was not of British origin; and further promised to endeavour to clear up whatever ambiguity there might be in the matter. The Grand Committee on Trade had the Bill under consideration the following day, but the clause in question was not reached. The principal discussion was upon the power to award damages, the railway representatives standing out for some protection against an action for damages being held over by a complainant; and words were eventually inserted providing that damages shall not be awarded unless complaint has been made within twelve months with respect to the matter complained of. Of course, the companies do not relish the idea of refunding overcharges a long while after the transaction, and it is not unreasonable for them to wish to make it incumbent upon the person aggrieved to take proceedings as soon as he comes to the conclusion that he has been unfairly treated. The Bill was again before the Committee on Monday last, when a limitation as to the right of appeal was agreed to at the instance of Sir B. Samuelson. The amendment has the effect of abolishing appeal to the House of Lords altogether, and the decision of the Supreme Court of Appeal will, therefore, be final. Exception has been taken to the appointment of Sir Matthew White Ridley as Chairman of this Committee, on account of his official connexion with the North-Eastern Railway, but probably the majority of the members are interested more or less in the question on one side or the other. If we are not mistaken, Sir Michael Hicks Beach is himself chairman of a short line in the West of England, and it certainly does not appear that he is allowing the fact to prejudice his action in any way.

WE hope the talk about the open space to the west of the Law Courts, started by Lord Meath in the House of Lords the other day, will not be without some result. It is very discreditable that this space should exist as a waste desert and eyesore to every one, closely adjoining as it is to one of our most important public buildings. The best proposal that was made in regard to it was that of Lord Henniker, that the space, so far as not wanted for the Bankruptcy Offices, should be now laid out as a garden and recreation ground by the Metropolitan Board or the local Vestry, with power to the Government to resume possession of the land when required. This power it would be necessary to retain, as the site was purchased originally for the Law Courts, and ought now to remain available for extending that building whenever necessary; but as it is not likely that this would be done for, at all events, many years to come, something ought to be done in the meantime with this space of ground, which has already been neglected for a long time, during which it might have been ornamental and healthful as a garden, instead of being ridiculous as a railed-in waste. Lord Herschell's objection that he hoped the space would never be built on, as it would spoil the existing view of the Law Courts (of which he is a known admirer), is æsthetic, but unpractical. It may be absolutely necessary some day to extend the Law Courts, and this is the only space available for the purpose; and practical necessity in that case must come first.

THE appearance now presented by the interior of St. Stephen's, Walbrook, with its open floor in the pronaos portion, and the rows of low open seats under the dome, is no doubt much more in accordance with modern ideas of worship than was its former appearance with the high pews, and there is no question that the interior looks more spacious than before. But it may be questioned whether the unity of architectural effect of the interior is not seriously impaired. In its old state the square bases of the columns just stood over the line of the woodwork, looking as if the two had been designed for each other. When the pews were removed, we are told, the pedestals were found to be circular, covered with woodwork, which would tend to confirm the idea that they were never intended to be seen. On the other hand, there is preserved in the vestry an old engraving dedicated to Christopher Wren *fils*, showing an interior view of the church, with no seating, and square pedestals with surbase mouldings standing free on the floor. It is apparently argued that this was the original intention; but it can hardly have been carried out, as it is not likely the surbases and pedestals would have been pared off afterwards. At all events, this engraving appears to have given the hint for the present treatment (about which we are informed that Mr. Penrose was consulted), in which the pedestals have been built out square, and a surbase moulding added; and the seating is loose on the floor, quite independent of the columns. We are distinctly of the opinion that the architectural effect would have been better if the design of the new seating had been directly connected with that of the pedestals, which have a very naked look standing about the bare floor. The seats themselves are simple and suitable in design, and the mosaic pavement looks well, though there is certainly nothing remarkable in the design. But there was a unity about the whole architectural treatment before which is lost now.

THE *Times* of Saturday, June 9th, announces that an appeal will be made for subscriptions in aid of preserving Crowland, or Croyland, Abbey,—"well known as a national monument,"—from becoming a total ruin. An architect's report is to be obtained upon the fabric and its condition. The beautiful relic stands over St. Guthlac's tomb in South Holland, Lincolnshire, south-east of Deeping Fen, on the right bank of the Welland (locally known as the Wash), and by the borders of Cambridgeshire and Northamptonshire. In the midst of the then well-nigh impassable marshes, and not many years after the landing of St. Augustine at Ebbe's Fleet, in the Isle of Thanet, a hermitage was set up here by Guthlac, a scion of the line of Mercian kings. This, in 716, *temp.* Æthelbald, over-lord of Mercia, was replaced by a Benedictine monastery, which, raised upon piles of ash and oak, the Danes pillaged and burned in 870, together with Medehamsted (Peterborough), Ely, Thorney, and Soham. Rebuilt by Ædrhaed, or, rather by Æthelrhaed II., it was again sacked and destroyed on the subjugation of Mercia and East Anglia by Knut. In 1112 the abbot Jofferhaed re-established the monastery on a scale it had never reached before. At the Dissolution its estates and manors were assessed as worth, *teste* Dugdale, 1,083*l.* 15s. 10d. a year. The site was then made over to Edward, Lord Clinton. The present Church of SS. Bartholomew and Guthlac, having tower, nave, and chancel, was formed out of the abbey. Some years ago the late Sir George Gilbert Scott directed a reconstruction of portion of the old western front. Of the numerous sculptures in which the ruins abound, some good representations may be found in vol. i. of John Carter's "Specimens of Ancient Sculpture and Painting, &c.," fo. size, 1786. These consist of drawings, made in 1780, of the bas-reliefs around the western door, in illustration of St. Guthlac's life, miracles, and death; and the statues, around the western window, of King Æthelbald, Emma of Normandy (second wife to Æthelrhaed II., and by him mother of Eadward the Confessor), SS. Peter, Paul, Thomas, Philip, Guthlac, with others. In the same volume, too, are views of the singular three-arched bridge, westwards of the abbey, and its antique seated figure of King Æthelbald II., son of Æthelwulf, who reigned 857-860. This statue, a seated figure, 6 ft. high, is by some taken for his brother, King Ælfred; by others, for Æthelbald, of Mercia, who, seeking refuge from Cheobrhed, had been harboured by Guthlac at Croyland. Vulgarly known as Oliver Cromwell, who was well remembered at Croyland, as at Stamford, with a loaf of bread, it holds in its hands what may be an orb and a sceptre. On the head are traces of a royal crown. It is placed against the inner wall of one of the passages over the foot-bridge that crosses a junction of an affluent of the Nene, the Welland, and the Catwater drain. A charter of 943 cites this bridge; but the structure which Stukeley mentions in his "Itinerary" dates from a later time,—early fourteenth-century, perhaps. He says "it is too steep to be commonly rode over: horses and carriages go under it." The three pointed arches, each having three stone ribs, moulded, spring from under abutments that rest at the angles of an equilateral triangle. These meet at a point above the centre of plan, and the three streams flow, respectively, beneath each. The learned Ingulphus (1030-1109) was abbot of Croyland; and in this parish, its population now about 3,000, was founded, soon after the Conquest and before the close of the eleventh century, the earliest school of any importance for the young in England.

WE regret exceedingly to notice the news of the death, at the early age of 46, of the great French etcher Rajon, who has so splendidly interpreted many works by English painters.

MR. WILLIAM DE MORGAN has on view, in the gallery in the rear of his premises, 45, Great Marlborough-street, a large panel of painting, executed for a conservatory at Paris for the Princess de Scey-Montbéliard *née* Singer. The design is of an archaic character, and consists of peacocks and shipping. In the same gallery are exhibited a tapestry of the Goose Girl, from a design by Mr. Walter Crane, and a decorative panel in tapestry from a design by Mr. William Morris, both executed by Messrs. Morris & Co. at their works at Merton. There are also some pictures by Mrs. Wm. de Morgan, including "Dawn" and "By the Waters of Babylon," which were exhibited at the Grosvenor Gallery.

WE have pleasure in announcing that Mr. Jas. Brooks has been appointed Diocesan Architect for Canterbury, in the place of the late Mr. Joseph Clarke.

THE British Consul at Vera Cruz reports:—"Profitable articles of import here are iron and wooden houses, which are admitted free of duty. Skilled labour here demands and gets high wages, so that decent houses are a luxury only to be afforded by rich people, and decently-dressed and well-to-do artisans and peasants often live in rough board houses, or huts, constructed of rafters and sugar-cane. To remedy this evil the Government admits the import, duty free, of ready-made houses of iron and wood. For this State,—Vera Cruz,—wood is the preferable material, the climate generally speaking being hot, and iron too good a conductor of heat. The houses best adapted for supplying this great want are two-roomed dwellings with spacious portico and overhanging eaves, roofs high enough at the ridge to give adequate ventilation, all the parts so constructed as to be easily put together, and carried to the selected site either by rail or road, the windows not too large, and fixed flush into the panels so as to be easy of transport and safe without much packing. If the wood employed could be impregnated with some chemical which would make it resist fire, vermin, and water without increasing too heavily the cost of the house, it would be a great advantage. The sun in this climate being very severe, the roof possibly requires a deal of consideration. Corrugated iron absorbs too much heat, and unprotected wood may possibly warp and shrink. A wooden roof might be thatched,—material being cheap,—if so constructed as to render thatching easy whilst maintaining a decent appearance on the inside."

A SEAT on the Metropolitan Board of Works is not a very enviable honour just now, if, indeed, it ever could be said to be

such. Without, therefore, exactly offering our congratulations to the new member, we are nevertheless glad to see that the Paddington Vestry has, by a majority of five votes (23 to 18), elected Mr. Mark H. Judge as one of their representatives, *vice* Mr. Urquhart, whose three years' term of office had expired, and who, rather than seek re-election, retired at the last moment in favour of Mr. Judge. Mr. Judge, as is pretty well known, is Chairman of the Inquiry Committee which has been formed to facilitate the investigation now being made by the Royal Commission, and as such he is not likely to be a *persona grata* at Spring Gardens. His avowed object in getting on to the Board is that he may have full access to the minutes and other records of that body and of its committees. Mr. Urquhart, on this ground, did not stand in Mr. Judge's way. Mr. Edmeston, however, another member of the Vestry, proposed the election of Colonel Blair as their representative on the Board. Mr. H. H. Collins, in proposing Mr. Judge for election, said that the efforts for bringing about the appointment of a Royal Commission would not have been so successful as they had been but for the labours of Mr. Judge in the matter. Mr. Judge, having addressed the Vestry, promising, if desired, to resign his seat (if elected) directly the Royal Commission closed its labours, was elected by 23 votes against 18 cast for Colonel Blair.

WE very much regret to hear that it is proposed to sell by auction the picturesque old house at 20, North-street, Exeter; as, of course, a sale by auction of an old house usually means that it will be pulled down to make way for a new building. It is to be hoped this will be avoided, unless, indeed, the house is so dilapidated internally as to be unsuitable for preservation. On that point we have no information, nor as to the reason for offering it for sale.

A CORRESPONDENT sends us a cutting from the advertisement columns of a country paper, in which a London architect who writes "A.R.I.B.A." after his name "begs to announce" that he has now a branch office at Little Pedlington (giving the street and number), "where he will be pleased to receive instructions for new buildings, alterations, repairs, surveys," &c. What do the Institute think of this way of upholding the dignity of the profession, practised by one of their members?

THE CONGRESS OF FRENCH ARCHITECTS.

THE sixteenth annual congress of French architects was inaugurated on the 11th of this month under the presidency of M. Bailly, with whom were associated as assessors M. Marteau, architect of Lille; M. Conty, of Châtelhérault; and M. Alfred Normand. As usual, the first sitting was devoted to preliminary arrangements (constitution of the bureau, and appointment of special committees); and also a critical report of the architectural exhibits at the Salon. This delicate task was undertaken this year by M. Louis Bernier, who treated the subject with much tact, but not without some decisive criticism on the jury, and the acceptance they had given to some designs which would certainly have received no notice at the École des Beaux Arts.

M. Juste Lisch read an essay on the work and life of the late M. Ruprich-Robert, which he had been unable to prepare for the last congress, and the sitting was concluded by a humorous paper by M. C. Lucas, on the provincial congress held at Toulouse in September last. The next morning the members met at nine in the morning at the Gare St. Lazare, where M. Lisch went through the construction in detail. Special attention was given to the fine apartment intended for what would be called in England the "Board-room," wainscoted with oak, and decorated with a chimney-piece of fine design.

The rapidity with which the work has been carried on here is an instance of the superior energy shown by private enterprise, as compared with the slow motion of Government work. While it has taken twelve years to complete the Hôtel de Ville, the new goods station de l'Ouest has already been in working order for six months; that for passengers, commenced only two years ago, will be completed in time for next year's exhibition; and the Terminus Hôtel, which completes this large assemblage of buildings, will be ready by the same time. Of the details of the construction we have already spoken, and need not go over them again; we may mention here the simple but effective decorative treatment of the staircases, with the iron construction showing as part of the design. The Terminus Hôtel, now rapidly rising, will be a repetition of the main features of the two end pavilions of the station façade. The whole will thus have the effect of a large screen building, the central hall of which will communicate by a corridor with the station itself. The water supply of the hotel will be drawn from an artesian well in the basement, giving an abundant supply. The members were much interested by the arrangements for raising the goods wagons by hydraulic lifts from the rail level to the "Halle des Messageries," two stories above, where by means of turntables (also worked by hydraulic power) they are put in communication with the different lines of rail communicating with the quays for loading, and again lowered to the railway level. The execution of all this work reflects the greatest credit on M. Bouisson, the engineer for this portion of the work.

The same day at the Louvre there was a brilliant paper read by M. Dieulafoy on the "Apadama of Susa." The Dieulafoy Museum, only opened a few days ago, occupies three rooms decorated by MM. Chauvin and Lameire. The walls are lined with bas-reliefs, and with decorations in enamelled brick of very curious design, but which it was a mistake to cover with a coating of varnish. The large glass cases contain toilette objects, jewellery, and cases of great interest, but which we have not space to describe at present. A plan in relief, to a scale of $\frac{1}{500}$ for longitudinal measure, and $\frac{1}{200}$ for vertical measure, enabled the meeting to follow the account of the operations of the French mission, which has been carrying out in this desert region the operations commenced in 1853 by Lord Loftus. The maximum height of the tumuli which covered the remains of the palace of Achemenides and Elamites was 36 mètres; the level of the river Chaour, the others ranging from 17 to 22 mètres. The Susan monuments covered a nearly regular lozenge-shaped area of about forty acres. At the north-west was a platform crowned by the Palace of Artaxerxes and the Apadama or throne-room reserved for grand receptions, and which to the Persian idea was, in fact, a temple, the monarchy being considered to be a divine appointment. The Apadama was surrounded by a large ditch or moat. It was reached by an immense staircase in successive flights, decorated with faïence designs of scrolls and lotus flowers. Figures of lions, designed with great realistic power, decorated the pylons of the palace, some of which were brought away nearly intact; and the frieze of fighting men is also in a surprising state of preservation. It seems to have occupied in the palace the same kind of place in the decorative scheme as the Panathenaic frieze at the Parthenon, being placed behind the exterior colonnade. The costume of the warriors appears to be the same with that of the "Immortals" mentioned by Herodotus, and who formed the Imperial Guard. The tunics are decorated with the arms and badges of the sovereigns of Susa, in the same way as those of the "hérauts d'armes" of the thirteenth and fourteenth centuries.

Thirty-six columns, of 22 in. in height and 2½ in. thick, surrounded the Apadama, and were decorated with bulls' heads, which supported the beams of the ceilings, which M. Dieulafoy has restored from measurements taken at Persepolis and Susa.

In an interesting paper on the Potteries of the Louvre, M. E. Pottier, Assistant-Professor at the École du Louvre, pointing out that polychromy was prevalent in all the architecture of antiquity, went into the subject of the part which he considered that terra-cotta played in the architecture of the Greeks. In illustration of his lecture he also brought before the meeting specimens of the potteries of the Campana collection, and some statuettes, as illustrating the progress from the first beginning of plastic work of this kind to the refined art of the Tanagra and Myrina figurines. In conclusion, M. Pottier hoped that modern architects would often come to the Louvre Museum for inspiration, and show their appreciation of the ceramic products which had played so large a part in the works of the ancients.

On Wednesday, the 13th, at nine in the morning, a visit was made to the Russian church in the Rue Daru, behind the Parc Monceau. This building, commenced in 1859, was opened in 1861. It was built in the Russian Byzantine style by M. Strohm, a member of the Academy of St. Petersburg, from the designs of M. Kouzmine, Professor at the same Academy. It is a Greek cross church with a central dome, and a total internal height of 48 mètres. According to the Greek Church rite, the building can contain no sculpture, and is decorated with frescoes representing scenes from the Old and New Testaments; and the iconostasis, as usual, is adorned with pictures on a gold ground. The whole scheme of painted decoration is the work of MM. Engraphe, Paul Lorikine, and Bronnikoff. Two landscapes by M. Bogolouboff decorate the two ends of the transepts. Externally, the building has the usual form of the Russian churches, and is surmounted by a great gilded pyramid finished by a little dome and cross. At each of the angles is a similar, but much smaller, pyramid. The effect of the whole is rich and striking in its way, and was a good deal admired by those who took part in the visit. On leaving the church, the party repaired to the Rue Vernet, in the new Quartier Marbœuf, where M. Paul Sédille has built two houses, the façades of which are happily decorated with mosaic and faïence. The art displayed in these buildings is certainly very modern and very individual in character, and has little to do with the recollections of the past, which play so large a part in most modern architecture.

On the afternoon of this third day, M. Courajod, Professor at the École du Louvre, read an interesting paper, at the Trocadéro, on French sculpture. According to his theory, it was not to Italy that we must ascribe the real renaissance of sculpture, but to the French artists of the thirteenth century, who, by an effort of genius, assimilated much of the spirit and feeling of Greek art, and carried on a revival of sculpture from that time to the fifteenth century, when they were eclipsed by the development of Italian art. Illustrations, by lantern, of some of the finest sculptures of Rheims and Chartres were brought forward in support of a view which is certainly open to controversy, but which M. Courajod advocated with great ability and eloquence, and, at all events, succeeding in interesting his audience in his views.

M. Le Commandant Delaporte, to whom we owe some interesting works on the far East, having been unable through illness to do the honours of the new Cambodean Museum, it was M. Roux, the Secretary of the Société Centrale, who gave a short lecture on the curious casts and remains of the architecture of Kmer, brought home by the Delaporte mission, to which the Government ought, however, to have attached an architect.

The excursions beyond the city are, every year of these congresses, largely attended and very popular with the members. That to Orleans, which took place on Thursday, the 14th, proved to be, however, rather too far off for a day's excursion of this kind, and the time left for inspecting the numerous objects of interest was much too short. The cathedral, which is but of mediocre interest architecturally, was not included in the official programme of the excursion, which was under the direction of M. Eudoxe Marcille and M. Dusserre. The party, however, visited in succession the Seminary, the chapel of which is decorated with splendid wood-carving executed by Dugoullon from the designs of Lebrun, and which, originally intended for the Palace of Versailles, had been refused by Louis XIV.; next the Hôtel de Ville, where Francis II. died in 1560, and lastly the Hôtel of Diana of Poitiers, a little chef d'œuvre of the Renaissance period, which contains the Joan of Arc Museum. Perhaps the greatest interest of Orleans lies in some other old mansions, the well-known house of Agnes Sorel, that of Marie Touchet, and others. An excursion to the source of the Loiret, a few miles from the town, wound up the day very pleasantly.

The morning of Friday, the 15th, was reserved for the subject of the Caisse de Défense, the im-

portance of which increases year by year, and the account given of its operations testified once more to the services rendered to the profession by this useful Association, which is taking an even larger development than was at first anticipated.

At three in the afternoon took place the ceremony of the presentation of medals under the presidency of M. Lockroy, Minister of Public Instruction and Fine Art, who, in response to the welcome of M. Bailly, delivered an address in praise of architecture, "le plus noble des Arts, dont la peinture et la sculpture ne sont en quelque sorte que le complément." Last year it was M. Questel who, on the same occasion, made a commemorative oration on M. Le Soufaché. This year it was the task of M. Raulin in turn to read a notice on the life and works of M. Questel. M. Wallon was also commissioned to retrace the biography of M. Julien Hénard. Unfortunately the deplorably bad acoustic qualities of the Hemicycle des Beaux-Arts rendered the hearing of these commemorative addresses a matter of difficulty to many of the audience.

M. Paul Sédille and M. Monnier were entrusted with the announcement of the "récompenses" decreed by the Société Centrale. The Silver Medals instituted by M. Le Soufaché and M. Sedille for domestic architecture were awarded to M. Aubry, architect, of Paris, and M. Durand, architect, of Bordeaux. The latter is the architect of the new building for the Faculties of Literature and Science, opened in that town in 1886.

The Medal of Jurisprudence was awarded to M. David de Penanrun, President of the Commission de Contentieux of the Société Centrale. Then M. Dieulafoy, amid great applause, received the medal which the Society presents every year for archæological research.

The medal offered in connexion with the École de France at Athens has been awarded to M. René de la Blanchère, who has been charged with a Government mission in Africa, and has made some valuable discoveries in regard to the remains of Carthagenian and Roman work in North Africa. The medal for the École de France at Rome was conferred on M. Deglane, whose fine restoration of the Palace of the Cæsars on the Palatine we have before mentioned. M. Boitte next received the medal for Historical Studies on Architecture from the eleventh to the seventeenth century. We may mention also the award of silver medals to MM. Sortais and Silva Ferreira, pupils of the École des Beaux Arts; M. Rapilly, pupil of the École des Arts Décoratifs, and M. Jay, pupil of MM. Girault and Daumet; and the medal of Industrial Art awarded to M. Blanqui, contractor, of Marseilles, at the suggestion of M. Sédille.

As usual, the close of the sitting was devoted to the delivery of medals and rewards to the apprentices of industrial schools, the "Cercle des Maçons," to building contractors, and to working men; and as usual, these latter modest assistants in the work of the architect were very warmly received on coming forward to receive the recognition of loyalty and length of service. Among the number of these we may mention especially M. Theodore Lenoble, a ceramist workman, to whom the Government has awarded its medal of honour.

On Saturday, the 16th, the last day of the session, the members met at the Champ de Mars to visit the works for the Exhibition, of the progress of which we have kept a sufficient record in "Letters from Paris." The Eiffel Tower was ascended as far as it has progressed, and after mounting the 350 steps, the party were received on the platform at the top by M. Eiffel, and drank success to the undertaking. The afternoon was devoted to a *compte-rendu* of the work of the learned societies by M. Daumet, and to various communications and reports of committees nominated on the 11th previous, and to which we may give some special attention on another occasion. In the evening the usual banquet was held at the Hôtel Continental, which wound up the Congress of 1888.

Prizes, Architectural Association Lectures.—The three prizes in connexion with Mr. H. Lovegrove's lectures on "Construction," at the Architectural Association, have been awarded to Messrs. Francis R. Taylor, Alan C. Walker, and H. E. Mathews. Messrs. Ernest Carless and L. J. Veit received honourable mention.

ARCHITECTURE AT THE ROYAL ACADEMY.

(CONCLUDING NOTICE.)

1881, "Design for a Memorial Window erected in a Church near Paris," and 1882, "Design for the East Window, Parish Church, Hampton-on-Thames"; Messrs. Heaton, Butler, & Bayne. These seem to be by two different hands, though signed with tho name of the same "firm." 1881 is a three-light window of strong and rather heated colour, with large figures of St. Louis, the Virgin, and St. John, with small predella subjects below. The treatment of the upper portion of the lights, with cherubs on a broken-up jewelled background, is good; the treatment of the principal figures seems to want similar breaking up in the colour: there are too large masses of strong colour. It is, however, what may be called an effective window, though not very refined. The sword held up by St. Louis and the sceptre in the hand of the Virgin make nearly parallel lines in the two lights, which is rather an eyesore. The other window (1882) is a large five-light Perpendicular window, drawn to a smaller scale, which makes in itself some difference in the effect, but it has more of that glitter which is so desirable in stained glass, and some of the individual figures of saints and patriarchs,—St. Michael, for instance,—seem admirably drawn and display some life, force, and originality of character. As far as one can judge of stained glass from a drawing, this ought to be a fine window.

1883, "House, Highgate"; Mr. Arthur S. Haynes. Two pen elevations and a plan of a long low Elizabethan house, well drawn and very pleasing and home-like in effect, though it can hardly be said to show any invention in the way of architectural features or details. The plan, however, is an interesting one, with some very nice points of arrangement.

1885, "Alterations to the old Palace, Richmond, Surrey"; Mr. H. O. Cresswell. This is the drawing which we published last week. It is of interest as a remodelling of an old house, but there should have been some indication given of the previous state of the old house and the extent and nature of the alterations.

1886, "Church of St. John the Baptist, Brighton; new Ceiling, Ante-chapel, &c."; Mr. S. J. Nicholl. This is the interior of a very clever and effective piece of remodelling of an uninteresting "Classic" building, the exterior treatment of which we illustrated some time ago. Here also there is nothing to show what has been done. The ceiling is a kind of neo-Greek treatment, with consoles and brackets strengthening the truss timbers in a manner recalling some of Viollet-le-Duc's suggestions for this kind of thing; the treatment of the queen-posts as square pillars with capitals is, however, very questionable. Generally speaking, though, the details are very good for this kind of treatment, and the drawing is very clever and well executed.

1889, "The Beckington Shrine, Wells Cathedral"; Mr. Roland W. Paul. A very good specimen of delicately-executed, but not laboured, pencil sketching, of which we published a reproduction in the *Builder* for February 18 last. Sketchy as the drawing looks, the detail of the miniature vaulting is very clearly shown, and will bear looking into more than in some drawings which appear at first glance to show higher finish.

1890, "Pulpit in the deserted Church of a South Italian Village"; Mr. J. A. Slater. The author seems to have been wandering in "deserted churches," having two other sketches in the room from similar sources, one of them already mentioned. This, a slightly-executed elevation tinted, shows a bit of work of much curious interest. The Byzantine element is strong in it; the pulpit stands on marble columns with quasi-Classic capitals, and is quaintly decorated with coloured marble inlay, and with figures and birds, apparently mosaic (the scale of the drawing is too small to indicate this); beneath the ramp of the stair-rail is Jonah cast up by the whale, a truly mystic whale with wings and a golden head; beneath this is the largest figure subject, Christ appearing to Mary in the garden. This pulpit has been for its time a work of great beauty and richness, and the sketch, carefully executed though slight in texture, is of great interest.

1891, "Church of the Dominicans, Arles: South Porch"; Mr. A. Needham Wilson. Another very good example of pencil sketching, also interesting in regard to its subject, showing a curious blending up, into what is now practically one structure, of a Romanesque arch and pilaster, a Late Gothic doorway on the left, and a Renaissance doorway seen beyond the round arch.

1892, "St. Trophime, Arles: the West Entrance," by the same hand as the last-named, is still better as a drawing; the clean perspective drawing of the mouldings of the door is a pleasure to see, as well as the delicate manner in which the rich work adjoining, and the figures, are touched in; this is one of the best drawings of the kind in the room.

1894, "A Drawing-room"; Mr. A. H. Belcher. A small water-colour perspective, with a great deal of delicate and pretty detail in it, apparently all conscientiously executed in pure water-colour. It is the interior of a double drawing-room,—a very pretty one, with light coloured or nearly white woodwork, and a large gold-flowered paper. The room is filled with bric-à-brac very minutely painted, and the whole drawing shows a very delicate sense of colour. In order, perhaps, to induce the spectator to look close at it, the point of sight is taken very near, and the perspective is a little sudden in effect for the ordinary distance at which most people would look at a drawing: it will bear looking close at, however.

1897, "Design for a Memorial Window; South Transept, Chester Cathedral"; Messrs. Heaton, Butler, & Bayne. We published the design of this window, without the colour, in the *Builder* for September 24 last, to which we may refer our readers for its general scheme. The drawing here exhibited is a very large, elaborate coloured one, with the same general effect and scheme of colour as shown in No. 1882. The window is a great seven-light one, with four rows of figure subjects crossing it in horizontal bands; the designer has left plenty of light or nearly white glass in the accessory portions, and the general decorative effect should be fine. In the two middle tiers of figures, by the way, the subjects in the three centre lights form a single subject ("the Crucifixion"), so that one of the horizontal divisions is broken here: this is an advantage in a decorative sense, but it was a mistake to employ figures here on a larger scale than the others in the same window, unless the difference of scale had been so great as to separate the two orders of figures into two entirely different categories. Such an arrangement as a large figure subject, with a miniature predella below, is always allowable, but to enlarge the scale of a portion of the figures to only a moderate predominance over the others is a mistake; it suggests a confusion as to the intended scale of the whole.

1,899, "House on the Severn, near Upton"; Mr. C. E. Mallows. There is nothing very notable about the house, which is a quiet little country house of semi-cottage character, but the drawing (which we are glad to see is signed by the architect himself and not by "an hireling") is worth notice as a very pretty and artistic bit of pen-sketching.

1903, "Design: Music"; Mr. A. Weatherstone. Apparently for the frieze of a room; a long panel with a row of female figures in light grey draperies playing and singing; the upper portion of the background is filled up with foliage kept rather dark and indistinct, the lower portion with what appears to be a conventional treatment of palings, coloured blue and with strong catching lights thrown on them here and there for no apparent cause. At each end is a square panel with seated figures, one given up to a rhapsody on hearing the music, the other more sensibly employed in teaching two little nude children to read music at her knee. The panels are divided by a stile with wreaths festooned on a gold ground. The figures are prettily designed, and the general effect is harmonious and decorative, though we cannot quite accept the blue palings.

1904, "Window in St. James's Church, Piccadilly: the Offerings of Cain and Abel"; and 1905, window in the same church, "The Visit of the Saints to Hezekiah when Sick"; Messrs. Ward and Hughes. These are peculiarly-shaped windows, nearly square in proportion, with segmental heads. They are treated with a border of delicate ornament of Renaissance character all round, and a picture of somewhat too naturalistic character in the centre. They look in the drawing more like painted windows than stained glass in the ordinary sense; little indication is given of leading, and the background of

House at Beckenham.—Mr. Ernest Newton, Architect.

the Cain and Abel scene is formed by a hedge, and trees above, against a blue sky. This would have suited Wren well enough, and may be considered to be in harmony with the church, but it is not the way to treat glass. The conception of Isaiah in the other painting, all got up in "gorjus" robes, and a kind of mitre on his head, is absurd, and shows, like many other instances, how totally apart the production of window subjects may be from any knowledge of history, or any intellectual perception of the subjects treated.

1,906, "New Building, Christ's College, Cambridge"; Mr. J. J. Stevenson. This drawing was published in the *Builder* for May 19 last. It is a very simple design, which has the merit of being entirely in keeping with the style and feeling of the existing buildings at Christ's College.

1,908, "Offices, 8, Great George-street, Westminster"; Mr. Halsey Ricardo. A spirited attempt to "treat" one of the Georgian houses of this dull street. A heavy cornice is placed near the top, and over it three small gables, with plenty of window in them. A large square window-opening in the ground-floor is filled with frame and glass on a curve in plan, forming a recessed bow. The drawing does not show the gilt grille over the doorway, which is the feature that catches the eye specially in the actual building. This is a very successful attempt to treat a business brick front so as to escape commonplace and invest it with a certain amount of character.

1909, "Design for Ceiling of Boudoir"; Mr. James Ward. This is a very pretty coloured *plafond*, rather unusual in design. The centre is formed by a circle with blue ground, on which Tritons disport; the remainder is covered with a delicate flowing design of sprays and flowers of Renaissance type, beneath which also the ground is divided into four compartments in two different tones, not too strongly contrasted, and bounded by scroll-shaped outlines, which harmonise with the flowing lines of the upper or detail design.

Although there is much that is good among the original designs of this year, by far the highest artistic interest of the collection is to be found in the drawings illustrative of ancient work, a good many of which are of exceptional merit.

HOUSE AT BECKENHAM.

THIS house was built by Messrs. Maides & Harper, of Croydon, for Mr. J. W. Moore, of Oakwood, Beckenham, as the Vicarage of St. Barnabas. Mr. Ernest Newton, of Hart-street, Bloomsbury, is the architect.

THE BOARD OF WORKS COMMISSION:

MORE EVIDENCE.

THE Royal Commission of Inquiry into the working and "alleged irregularities" of the Metropolitan Board of Works has held three sittings since the publication of last week's *Builder*,* but before proceeding with our summary of the new evidence, we hark back for a few moments in order to supply one or two important omissions from our previous summary.

Mr. Francis Hayman Fowler, F.R.I.B.A., a member of the Board, in his evidence when examined by Lord Herschell, said he had been concerned for the *beneficiaires* under a will with reference to the Oxford Music Hall, and when the requisitions of the Board with regard to structural alterations, &c., were received by the proprietors of that building, he was asked to look at them. He advised that the requisitions must be complied with, and had made such plans as were necessary to show what must be done; but having had some unpleasantness with Mr. Hebb over the Avenue Theatre plans, he determined to have nothing further to do with any business which, while it would keep his mouth shut and his hands tied, would render it necessary for him to be in communication with Mr. Hebb and the Architect's office. He therefore handed over all the papers to Mr. Street, formerly his clerk, and now a District Surveyor, and told him to carry it through. He (witness), or rather his firm (Fowler & Hill), received all the fees for making the plans, and Mr. Street got his proportion for superintending the work. Everything that the Board ordered to be done was done, but it was not known at the Board that he (witness) had prepared the plan. Cross-examined by Mr. Winch, witness said his name was not on the plan. Asked as to the division of the commission of five per cent. on the cost of the work (about 1,000*l.*), witness said that Mr. Street did not get any specific payment in money, but he got something in the shape of salary and in the use of his (witness's) offices for a whole year. Mr. Street was not at that time doing other work besides this for witness in return for his salary. Asked how many weeks Mr. Street was employed on this work, the witness said "he took it with his other work."

Mr. Thomas Blashill, the present Superintending Architect of the Board, recalled, said that, as far as his experience went, the work executed by Mr. Pett in keeping in repair and structural safety the small properties acquired by the Board in the course of making street improvements was very well done, and that since, by resolution of the Board, he had ceased to employ Mr. Pett, he had had difficulties in getting the work done. It was work of a kind for which builders, as a rule, did not care.

Mr. Richard D'Oyly Carte, proprietor of the Savoy Theatre, examined by the Chairman,

* See p. 434, *ante*.

deposed to the delays that he experienced in getting plans passed by the Board. Robertson had done some work for him in preparing the original plans for the Savoy Hotel and Mansions. He paid Robertson 100*l.* for his services, but those plans were subsequently abandoned, and were never before the Board. Robertson did not have anything to do with the plans of the building (Savoy Mansions) now being erected on the Embankment. The plans for that building were prepared by two or three draughtsmen working under the direction of Mr. Holloway, who was practically the architect as well as the builder of the structure.

Mr. W. R. Selway, recalled, said, in reply to questions by the Chairman, that he did not consider that officials in the Architect's Department had any right to practise privately; that he was not aware that it was being done; and that there was a general and distinct understanding that such officers were not to practise privately, but to devote their whole time to the service of the Board.

Mr. James Hartnoll, a builder, deposed to having purchased from the Board, in conjunction with a Mr. Samuel Toye, several plots of land for the erection of artisans' dwellings. Besides the site in Goulston-street (in respect of which, as already mentioned, he paid Robertson 500*l.* for preparing the plans which had to be submitted to the Board), there was a site in Middlesex-street, and in connexion with this he paid Robertson 250*l.* for assisting him with the plans. He also paid Robertson 500*l.* in connexion with a site at Poplar, and 100*l.* in respect of a site in Tooley-street. Cross-examined by Mr. Meadows White, Q.C., on behalf of the Board, witness said he was only too well aware that plans for these artisans' dwellings had to pass the Home Office; the difficulty was to get the plans back after lodging them there.

Mr. Henry Clarke, a tobacco manufacturer, testified to having consulted Robertson several times as to tendering for Board sites. Robertson advised him as to the prices he should offer. Acting on such advice, he bought one site for 928*l.*, and ultimately sold it at about 500*l.* profit. Subsequently, he thought, he let Robertson have a cheque for ten guineas, and a 50*l.* note. Afterwards lent Robertson 500*l.*, but that was paid back, with interest. Later on Robertson "went halves" with witness in connexion with two other Board sites, one in Commercial-street and one in Goulston-street. He bought the site in Goulston-street for 2,950*l.*, and sold it for 7,000*l.* for the erection of a German church. He gave Robertson a cheque for 1,500*l.* as his share of the proceeds of that transaction. Subsequently, he declined to have any more transactions of the kind with Robertson, because he (witness) "thought it began to look rather complicated"; besides, one of the bargains (the Commercial-street site) had not turned out well, and Robertson evinced no desire to take his share of the bad bargain as well as that of the good one. Witness therefore, in February, 1886, gave Robertson a cheque for 361*l.* 15s., being 320*l.* 10s. for half of the net profit made over a Board site at Camberwell, and 41*l.* 5s. more on Goulston-street.

Mr. James Willing, advertising contractor, called and sworn, said he had had a number of pecuniary transactions with Robertson and Goddard. He had paid Robertson various sums of 10*l.*, 20*l.*, 25*l.*, "besides smaller sums and tickets and wine," for giving him early information as to the names of buyers of Board sites, so that he (Willing) might have the first chance of treating with the new owners for the use of the hoardings. He had paid Robertson as much as 45*l.* or 50*l.* a year in this way. To Goddard he gave 20*l.* every Christmas in consideration of similar information, and also in order to induce them to get bills which had been surreptitiously posted on the Board's hoardings removed at once. The Board did not allow posting on hoardings in front of sites still in their hands, and such illicit posting was likely to do him (Willing) harm. He thought their (Robertson and Goddard's) services were well worth the money he paid them. They never sent him any receipts, but he had no doubt they were very much obliged to him for sending the money.

Mr. Walter Emden, architect, was called, and, examined by the Chairman, he described the difficulties and delays he had encountered in getting his plans passed for Terry's Theatre. It took eight or nine months to get them through the Board. When he had applied personally to Mr. Hebb, who had charge of that department of the Architects' office, to know what were the objections to his plans, he had been told that he "ought to peruse the By-laws of the Board; then he would find out." He had had no pecuniary transactions with Mr. Hebb, nor had he any knowledge of any transactions of the kind with Mr. Hebb. Questioned by Mr. Winch, witness said that one of his clients (Mr. Wilmot, of the Grand Theatre, Islington), came down and told him that it had been suggested to him (Wilmot) that some one should be joined with Mr. Emden as architect of the theatre. Did not know who had made that suggestion to his client. Could not say, even, that he had any suspicion of any one in particular in that case; but he could not forget that in other cases, that of the Avenue Theatre, for instance, he had been superseded by some one else. In the case of the Avenue Theatre, his client, Mr. Sefton Parry (now dead), dismissed him, telling him that "he was obliged to place the work in other hands." [Mr. F. H. Fowler, a Member of the Board, was the architect of the Avenue Theatre.] He (witness) was now concerned for what is known as "Hare's Theatre," the plans for which had quite lately been passed within about three weeks, as against nine months required to get the other plans through. Would not say that this greatly-accelerated speed was due to the fact that the Royal Commission was sitting.

Mr. Edward Stimson, auctioneer, of New Kent-road, recalled, explained the details of several of his pecuniary transactions with Robertson. In several cases in which he (Stimson) had acted for the Board in selling land, he had shared (halved) his commission with Robertson. Asked why, he replied that he found there was business to be done if he paid Robertson. He did it as a matter of course. "In business they had to do it. Such a thing was so usual and so customary, in fact, in these days of competition, that unless they shared the commission with some one, or paid something, business was next to impossible."

Mr. William Storr, a resident at Brixton, was next called, and gave evidence as to the definition of the line of frontage in Brixton-rise, at the corner of Trent-road. This line of frontage was defined by Mr. Hebb, Superintending Architect in the period between the death of Mr. Vulliamy and the appointment of Mr. Blashill. Some controversy arose between the Vestry of Lambeth and the Board as to this definition, and the matter was referred to the Solicitor of the Board (Mr. Ward) for consideration. The Solicitor and the Superintending Architect seemed to have thought that the case was governed by the well-known De Vere-gardens case (Barlow *v.* The Vestry of St. Mary Abbotts, Kensington), but during the reading of their reports (which were put in during the course of Mr. Storr's evidence) Lord Herschell, before whom that case came when he was Lord Chancellor, said the point of that case appeared to have been misapprehended. If the judgment of the House of Lords in that case were looked at, it would be found that more than one, if not all the lords who delivered judgment, expressly pointed out that a house might be in more than one road for the purpose of fixing the building-line. He did not think that any of them rested their judgment in the slightest degree as to whether it was the front or the side of the house that was towards De Vere-gardens, and he wished emphatically to say that he hoped no Superintending Architect of the Board would in future act from such a mistaken view of the point of the case in question.

Mr. James Kent, a builder, called and examined by the President, said he was a builder, and had had various transactions with Robertson. He had bought Board sites, and had given Robertson cheques for 20*l.*, 100*l.*, and 50*l.* He gave these cheques because "he thought it a wise thing to do." He employed an architect, and Robertson had nothing to do with the plans. He (witness), in partnership with Mr. Alfred King, another builder, bought two houses or factories in Clerkenwell from the Board. They first of all offered 8,000*l.*, but that was declined. Robertson said they would "have to spring another 500*l.*," and to give him 500*l.* besides (250*l.* each from witness and King), making the total cost of the property to them 9,000*l.* Subsequently, after they had agreed to do this, Robertson came to them and told them that they would be able to get the land from the Board for 8,250*l.* if they offered that sum, but he stipulated that they must give the 250*l.* they would thus "save" *to him*, as it would make no difference to them, since they had already made up their minds to give 8,500*l.* They agreed, and Robertson thus got 750*l.* out of this one transaction. The property in question was obtained by them, and after some outlay for repairs and alterations, was afterwards sold by them, his (witness's) share of the proceeds being 6,500*l.*

Mr. Alfred King, builder, was called, and confirmed Mr. Kent's evidence as to the Clerkenwell property. He also detailed a transaction as to a site in Northumberland-avenue (the plot now occupied by Wessex House). He, after consultation with Robertson, tendered for that site, and offered 242*l.* or 243*l.* a year for it. That offer was accepted, and he gave Robertson 100*l.* In another transaction, concerning some land at Bethnal-green, he gave Robertson 20*l.*

Mr. William Haigh (Robertson's solicitor) was called, and after cautiously raising the question of privilege as between solicitor and client,—a question on which he was substantially overruled by the Chairman,—proceeded to unravel somewhat the confused tangle of Robertson's financial affairs. The witness admitted that he had negotiated with the Board for the purchase of property on behalf of William Grey and Richard James Larking, knowing that they were only Robertson's nominees, and that Robertson, an officer of the Board, was the real principal for whom he acted.

Mr. Villiers, recalled, handed in another letter from Goddard, in which he said:—"If you could know the pains of the damned, they would be something like mine."

Mr. Thomas Whorlow Legge, a wine merchant and licensed victualler, and brother-in-law to the witness Stimson, spoke of his relations with the Board and with Goddard, while he (witness) was tenant of the "Yorkshire Grey," Gray's Inn-road. He gave Goddard* 2,000*l.* on getting the licence for the new building.

Among the witnesses called on Tuesday last was Mr. Edward Ryde, of Great George-street, first President of the Surveyors' Institution, who said he remembered receiving a communication some twenty years ago from Mr. Frederick Marrable, who was Superintending Architect of the Board until 1864, and who died in 1872. When Mr. Marrable left the Board he went into private practice, and while so engaged he came to witness and asked him to take the office of referee in a dispute between him (Marrable) and Goddard as to the sharing of commissions *re* land required for the Thames (South) Embankment. Mr. Ryde said that Mr. Marrable stated to him that

> "Some time after he [Marrable] had left the Board Mr. Goddard made a communication and proposal to him to this effect: 'We are about to buy the land for the Thames (South) Embankment. I shall meet with a number of claimants who are without a surveyor. I can say to them, "Mr. Marrable is a surveyor who has great influence with the Board by reason of his former connexion with it; if you put your cases into his hands he will get you large compensation." If I send such people to you, will you give me one-third of your fees?' Mr. Marrable said that he accepted the proposal, and Goddard sent him a considerable number of cases, including some large ones; but, knowing he had to do with Goddard, he had taken the precaution of getting from each of his clients an agreement to pay him 5 per cent. commission on the compensation obtained, less the amount which the Board's surveyor (Goddard) might allow as a fee to him as the claimant's surveyor. After a number of cases had been completed Goddard requested a cheque from Marrable, and Marrable sent him one; but in calculating the amount Marrable had taken one-third of the surveyor's fees allowed by Goddard to the claimants. These fees were according to 'Ryde's scale,' which is much below 5 per cent. Goddard had heard of the arrangement which had been made by Marrable with the clients, under which 5 per cent. was to be paid to Marrable, and claimed one-third of that larger sum. It was upon the dispute so created that Mr. Marrable had asked Mr. Ryde to arbitrate."

Mr. Ryde said he at once told Mr. Marrable that he could take no part in arbitrating on such a transaction, and he expressed his regret at seeing Mr. Marrable entangled in such a matter; he must, he thought, have become involved in it without realising the position in which he was placing himself. Mr. Marrable inquired what there was wrong in it (!), and

* Goddard was dismissed at the meeting of the Board on the 5th inst. One of his apologists on the Board, Mr. John Jones, with characteristic eccentricity, pleaded for stay of judgment. Goddard, he said, "was a very remarkable man." (Mr. Edwards, the Deputy Chairman: "I should think so"). "If he had been a covetous man," continued Mr. Jones, "out of the 20,000,000*l.* worth of property that passed through his hands at the Board, he would certainly have been able to secure a purse for himself."

then Mr. Ryde pointed out that the first business of Goddard should be to buy the land for the Board as cheaply as he could, fairly compensating every one, but nothing more. In this scheme not only did he tell the claimants to go to Mr. Marrable with the avowed object of their getting a larger compensation, more than another surveyor could get them, but he (Goddard) was in the anomalous position of having to settle the amount of a claim in the result of which he had himself a personal interest. Mr. Ryde added that he had never been employed to support Mr. Goddard as a witness in a compensation case since that time. He also wished to add an expression of his belief that the late Mr. Vulliamy had no knowledge of the arrangement in question between Goddard and Marrable.

Later in the day other evidence was given by certain members and ex-members of the Board.

The Commission sat again on Wednesday, when more revelations were made by Goddard's son, Matthew Goddard, a clerk at present in the employ of the Board in the Surveyor's department of the Architect's office, who owned to having received a great many sums,—from 5*l.*, 10*l.*, and 20*l.*, up to 100*l.*, or more,—from tenants of the Board's public-houses. He said that his father knew nothing of these transactions. Other evidence was given, but we must break off here for the present.

It is right to say that in the course of the proceedings on Wednesday, Mr. Studd, one of the counsel representing the Inquiry Committee, said that the Mr. Woodward whose name has been mentioned in connexion with this inquiry, especially in connexion with the Pavilion site, is not Mr. William Woodward, A.R.I.B.A., of Duke-street, Adelphi. Mr. Studd added that he believed the Mr. Woodward referred to was a District Surveyor.

THE GREEK AND ROMAN THEATRE.

SIR CHARLES NEWTON'S sixth lecture on this subject,—the last of this series,* and which also marked the conclusion of his Professorship at University College,—was delivered on the 12th inst., and dealt with the history of the Roman stage. In indigenous dramatic art, Italy was almost entirely wanting: it was only when the Latin race came in contact with Hellenic culture and acquired a knowledge of the arts of conquered Greece, that the Romans first had a stage. It is true that we have early mention of acting in Rome: on the occasion of a great pestilence in B.C. 364 we are told that Etruscan players, *histriones*, were invited from Etruria to Rome to assuage the terrors of the multitude and avert the anger of the gods; but these seem to have been, not regular actors, but rather mimetic dancers. In B.C. 240 Livius Andronicus, a Greek by birth, published the first of a series of dramas translated or imitated from Hellenic originals, which seem to have been singularly tame and deficient in invention. Greek tragedy had in Rome to struggle with all the disadvantages of a plant transferred to a foreign soil. Roman religion was in some degree akin to that of the Greeks; but at all events, the divine and heroic mythology of Hellas, when first introduced into Rome by the poets of the Augustan age, was in no wise interwoven with the national recollections, as was the case in so many ways with those of Greece. However desirous the Romans were to become thorough Hellenists, they wanted for it that milder humanity which is so distinctly traceable in Greek poetry and art, even in the time of Homer. "Never in their character," says Schlegel, "did the Romans belie the legend that their first founder was suckled, not at the breast of a woman, but of a ravening she-wolf. They were the tragedians of the world's history, who exhibited before the populace of Rome many a deep tragedy of kings led in chains and pining in dungeons." He goes on to point out how the Roman drama was in keeping with the national character, wanting in the finer gradations of feeling; as a relic of their former grandeur they preserved a contempt of pain or death, contrasted with an extravagant enjoyment of life; and the refined *nuances* of tragic pathos were absolutely lost upon a people whose craving for shows and spectacles and scenes of blood amounted almost to a madness. This estimate of Schlegel is fully borne out by what we know of the extant tragedies attributed to the Roman poet Seneca.

Following the example of the Italian Greeks, the Romans at an early period erected their theatres upon the sides of hills. At first, the performances took place on a temporary wooden stage, which could be removed at pleasure; and it was on such a stage that the plays of Plautus and Terence were first acted. The erection of a stone theatre was for a long time strongly opposed in Rome, as a Greek innovation, and even during the last period of the Republic, wooden theatres, adorned with profuse magnificence, were erected there. In B.C. 155, the first stone theatre was nearly completed, when, by an order of the Senate, it was pulled down, as injurious to public morality. Pliny describes a wonderful wooden theatre, built in B.C. 58, by M. Æmilius Scaurus. Its *scena* consisted of three stories, decorated with 360 columns, the lowest story of white marble, the middle one of glass, and the upper one of gilt wood. Between the pillars were 3,000 statues, besides paintings and other ornaments. The *cavea* contained 30,000 spectators.

In B.C. 55, Pompey built the first stone theatre at Rome, near the Campus Martius. It was of great beauty, and is said to have been built after the model of that of Mitylene; it contained 40,000 spectators. After this, we hear of a theatre which Augustus built and called after his nephew Marcellus, and which still exists; and a third stone theatre built by Balbus; while in B.C. 50, two magnificent wooden theatres were erected by C. Curio; these were placed back to back, and might be changed into one amphitheatre by machinery, which transported bodily both the theatre and the audience.

The capacity of the theatres at Rome was inferior to that of the largest Greek theatres; for the uncultivated multitudes the circus and arena had far greater attractions; so that while the largest theatre, that of Marcellus, held 20,500, the amphitheatre was constructed to hold 87,000 spectators. The curtain, which we now call the drop-scene, was lowered below the level of the stage during the performance, and raised again at its close; it was made of tapestry ornamented with figures, and a passage in the "Georgics" of Virgil alludes to the figures of Britons woven into the tapestry and raising their arms like Caryatides. The stage itself was deeper than in the Greek theatre, so as to allow of processions and crowds in the piece. The seats which rose above the *orchestra*, and the *orchestra* itself, formed each only a semicircle. The *orchestra* was no longer intended for the *choros*, but the *thymele* being done away with, it was partly converted into seats for senators and other distinguished persons: the arrangement of sittings being regulated according to a law passed in B.C. 68.

The Roman comedy was of two kinds,—"Comœdia palliata" and "Comœdia togata." Of the second we have no extant specimen; to the first belong the versions by Plautus and Terence of the plays of Menander and Diphilos; as these plays were thoroughly familiar to the audience, the school of acting thus developed was severely classical, and formed the basis of the instruction in elocution of the schools of rhetoric. Tragedy only held its ground by the introduction of splendid spectacular effects, and was gradually dissolved into its original component parts; the connexion between the several scenes was sacrificed, and only telling incidents were presented. And already, at the end of the Republic, the performances of the singer, dancer, and flute-player were regarded as independent of each other; thenceforth, pantomimes and tragic recitations were alone in vogue.

Besides the legitimate drama the Romans had two forms of dramatic representation which we may consider as the indigenous product of the Latin race,—the Atellan plays and the Mime. In the Atellan plays, originally transplanted from Campania to Rome, a short story was played by four masked characters, the prototypes of the modern character-comedy. These were "Pappus," the old man, a sort of pantaloon; "Docennus," the wise man; the glutton "Bucco," and the fool "Maccus," characters which still survive in the pulcinello of Naples. We have the titles of many of the most popular Atellan pieces, which were probably continued from the Republic to the Empire. The comedy is grotesque throughout, and the fun very rough and abounding in gross jokes.

The Mime was a character representation, also taken from real life, but acted without masks; the subjects were chosen from city life, whereas the Atellan plays preferred scenes from rural life. In these plays even the gods and the reigning Emperor came in for abundant ridicule, which occasionally received a summary check, for we are told that Caligula burnt an Atellan poet in the ampitheatre, and the player in one of these scenes was banished by Nero. The Mimes played in front of the stage before a curtain, in a motley harlequin attire, over which a small mantle was thrown; women's characters were played by women, and the most unbridled licence was allowed and even preferred.

In the pantomime, the expression was carried on entirely by means of gesticulations, the impressive moments of the story being given by a series of lyrical solos, executed by a single pantomimist. In the intervals between these songs the chorus sang, and the actor had time to change his dress. This choral song was introduced, instead of the single flute-player, by Pylades in B.C. 22, who brought the art to its highest perfection. For these *ballets d'action* special libretti were written, called *fabulæ salticæ*, and the music was performed by a band consisting of a harp, lyre, cymbals, and possibly the organ, *hydraulis*,—such a band is represented on the pedestal of the obelisk of Theodosius at Constantinople.

Besides the pantomime, there was also on the Roman stage the Pyrrhica, a dance originally practised among the Dorians as a war dance, but imported in the period of the Empire to Rome. In the imperial household there were special troupes of slaves and professional dancers trained for this purpose, who wore tunics embroidered with gold and purple and scarlet mantles. In their dances they executed a variety of complicated figures, such as sham fights and Bacchic themes. Apuleius gives us a description of one of these Pyrrhica, performed in the Roman colony at Corinth, which represented the Judgment of Paris, in which the whole story was enacted in elaborate scenery with appropriate gestures and dances. In the time of Commodus the pantomime became the regular theatrical entertainment of the upper classes, as buffoonery was that of the lower. In the great families a troupe of pantomimists often formed part of the general establishment; and this taste led to an undue cultivation of the art of dancing among the higher classes, so that men of high birth and education became an object of scorn. Dancing developed into an independent art regularly taught by professors, who attended the private houses; but notwithstanding their popularity at this period, the social position of a player was no higher in Rome than before: no one who had danced in public could enjoy the rights of citizenship, or hold any public office: the soldier who became an actor was punished with death; and a specially severe code of laws marked the exercise of the actors' art as dishonourable. Not even in Hellas were the actors in much better repute: a pupil of the philosopher Taurus, we are told, was much given to the society of tragic and comic actors and flute-players: his teacher drew his attention to the remark of Aristotle, that the Dionysiac artists were, for the most part, immoral men, because their profession drew them away from the study of philosophy, and they lived in alternations of extravagance and destitution.

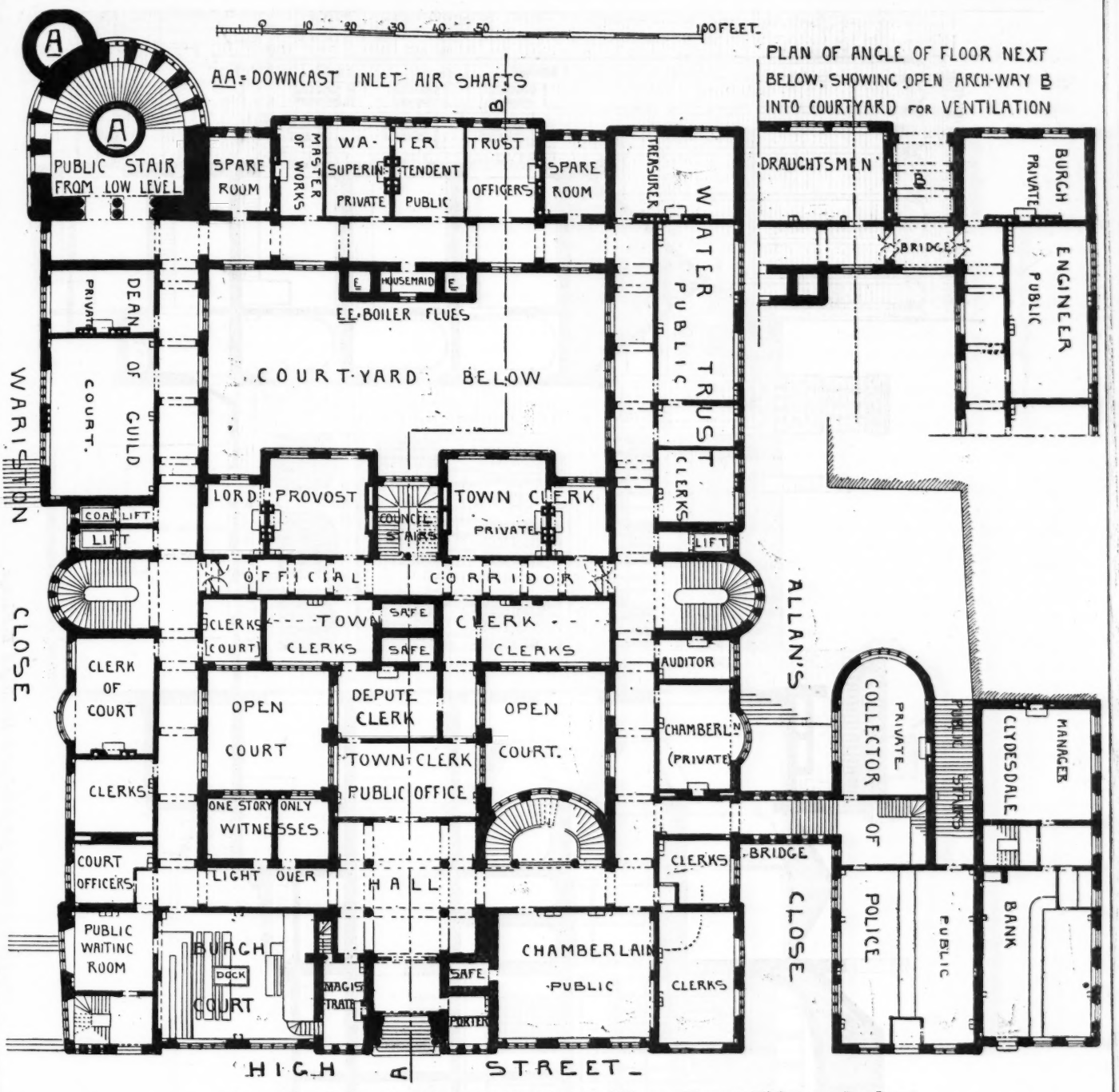
* For reports of the previous lectures see pp. 318, 341, 361, 375, and 397 *ante*.

Illustrations.

COMPETITION DESIGN FOR EDINBURGH MUNICIPAL BUILDING.

THIS was the design submitted in the above-named competition by Mr. John Slater and myself jointly, under the motto "Tannahill." It is due to Mr. Slater, however, to say, that he is not responsible either for the general arrangement of the plan or for the architectural treatment; the part he took consisting of elaborating the entire schemes of drainage, heating, lighting, and ventilation, which were described, and shown in a number of detail drawings, with a degree of completeness not often seen in competition plans.

The plan was arranged with a view to simplicity in the lines of internal traffic, complete



Competition Design for Edinburgh Municipal Buildings.—Plan at High-street Level.

communication all round, and no hide-and-seek corners, and getting all the principal departments to which public access was required on the High-street level. The Town Clerk's public office, as the central inquiry point of a system of municipal chambers, is placed centrally, facing the principal entrance, where no one can miss it. If this were always done we should not find people scouring the corridors and staircases in such buildings—"Can you tell me where the Town Clerk's office is?" The Town Clerk's and Lord Provost's private rooms open on a semi-private "official corridor," supposed to be reserved for Town Councillors and high officials, and from which the private council-room staircase opens.

The space under the level of the courtyard at the back was utilised as the depôt for the whole heating and lighting agency,—boilers, engines, and dynamos, as seen on the section: the driving-fans for ventilation being also placed here. The lofty open arches at two angles of the quadrangle were introduced to promote circulation of air; for the same reason part of High-street buildings are shown divided off from the main block, and connected by a bridge, not for "effect," but for the advantage of getting a straight passage through at Allans Close, instead of winding round the margin of the site.

The general idea as to style was to give some reminiscence of features characteristic of Scotch Gothic, but avoiding actual copying. The projecting angle of the site at the foot of Wariston Close seemed the appropriate place for a salient feature in the shape of a tower, where the whole height from the lower level could be emphasised; but the tower is used both as a staircase and as the inlet for fresh air for the ventilating system, drawn down from the top by a fan in the basement, and thence propelled by the same power through the building.*

The design was one of twelve selected by the assessor for special consideration. As both perspective views and every sort of "shading-up" were forbidden by the terms of the competition, the perspective here shown was, of course, not submitted in the competition, and the elevations have been worked on a little since.

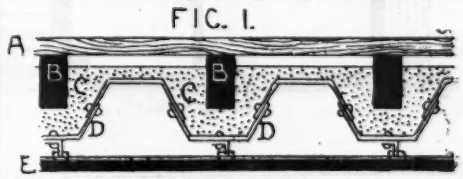
Mr. Slater's acquaintance with the practical subjects which he took in hand is so well known that an extract from the portion of the Report written by him, and dealing with these points, will be of real value to student readers, and is, therefore, subjoined, along with cuts of two or three of the diagrams which were submitted.

H. H. STATHAM.

Extract from Report accompanying the Design.

"*Fireproof Construction.*—This has been carefully considered. The main floors are to be constructed of Lindsay's steel decking, which has been extensively used in many public buildings with very great success. It consists of a series of steel troughs bolted together and carried on iron girders, and filled in with concrete. In all fireproof floors which have to be finished with wooden boards it has always been a difficulty to preserve the joists or blocks which are embedded in the concrete from decay, and in order to obviate this it is proposed to use coke-breeze fixing blocks. These are perfectly indestructible, and yet will hold nails as well as wood. They would be laid in the concrete, before this becomes set, at the proper intervals for boards, and would be absolutely rigid; upon them the boards would be nailed in the ordinary manner, and in the principal rooms parquet overfloors would be used. On the under-side of the iron joists, instead of ordinary wooden laths, wire-netting would be fixed, forming a key for the plaster, which would be applied in the ordinary way, and the whole of the floors would thus be perfectly fireproof. (See fig. 1.)

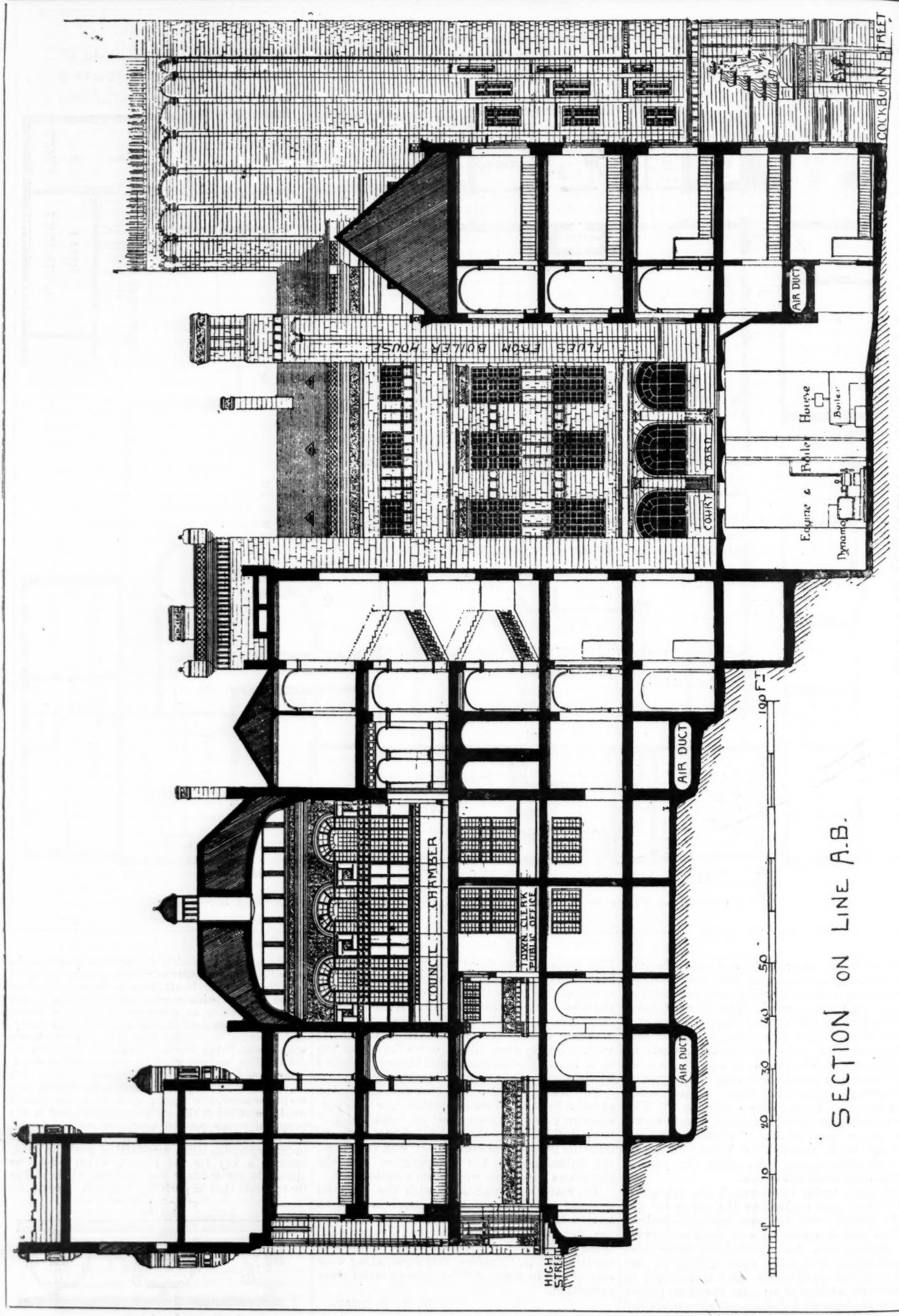
FIG. 1.



A. Flooring boards.
B. Coke breeze fixing blocks.
C. Concrete.
D. Steel decking.
E. Plaster ceiling on wire lathing.

Warming and Ventilation.—These two subjects must be considered together. As the number of persons using the buildings regularly is not stated, it is assumed that the various rooms and offices will

* The finish of the turret is not shown in the elevation, as in the original drawing there was not space, and it was shown on another elevation.



Competition Design for Edinburgh Municipal Buildings.

never be so crowded as to necessitate the air being entirely changed more than three times in the hour, and upon this basis it will be necessary for the purpose of thoroughly ventilating the building to provide for the introduction of 35,000 cubic feet of fresh air per minute. For the purpose of supplying this large quantity, the best plan would be to drive it into the building at a pressure slightly in excess of the ordinary atmospheric pressure. Two propulsive fans or blowers would be employed, each supplying one half of the building. Each blower would be 5 ft. in diameter, and if worked at 350 revolutions per minute would supply the requisite quantity of air. As, however, there might possibly be a breakdown of one of the blowers, the other, if worked at 500 revolutions per minute, could be made to supply the whole building. The blowers would be placed in air-chambers adjoining the engine-room, but not communicating with it, and the air would be led to these chambers from the top of the high tower, and would pass through a cotton-wool filter. This arrangement would, it is believed, obviate the disadvantage which is frequently experienced when the air is forced into a building from the basement,

READING ROOM ASHTON ON MERSEY.
CHESHIRE.
GEORGE TRUEFITT. ARCHITECT. 1887.

The Phototype Co., 333, Strand, London.

The Photogravure Co., 359, Strand, London.

EPISCOPAL RESIDENCE AND CLERGY HOUSE: ST. GEORGE'S CATHEDRAL: SOUTHWARK:

FREDK. A. WALTERS, F.S.A. ARCHITECT.

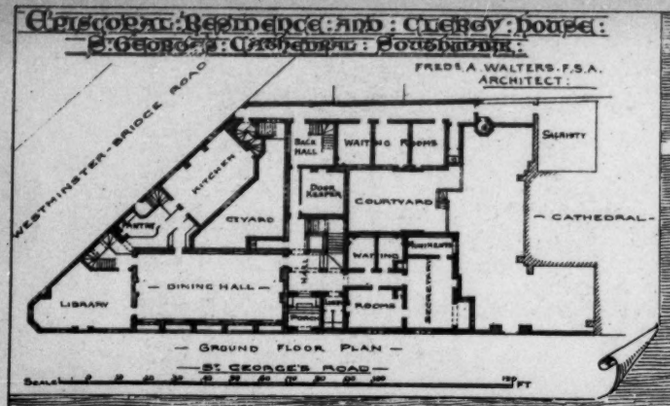
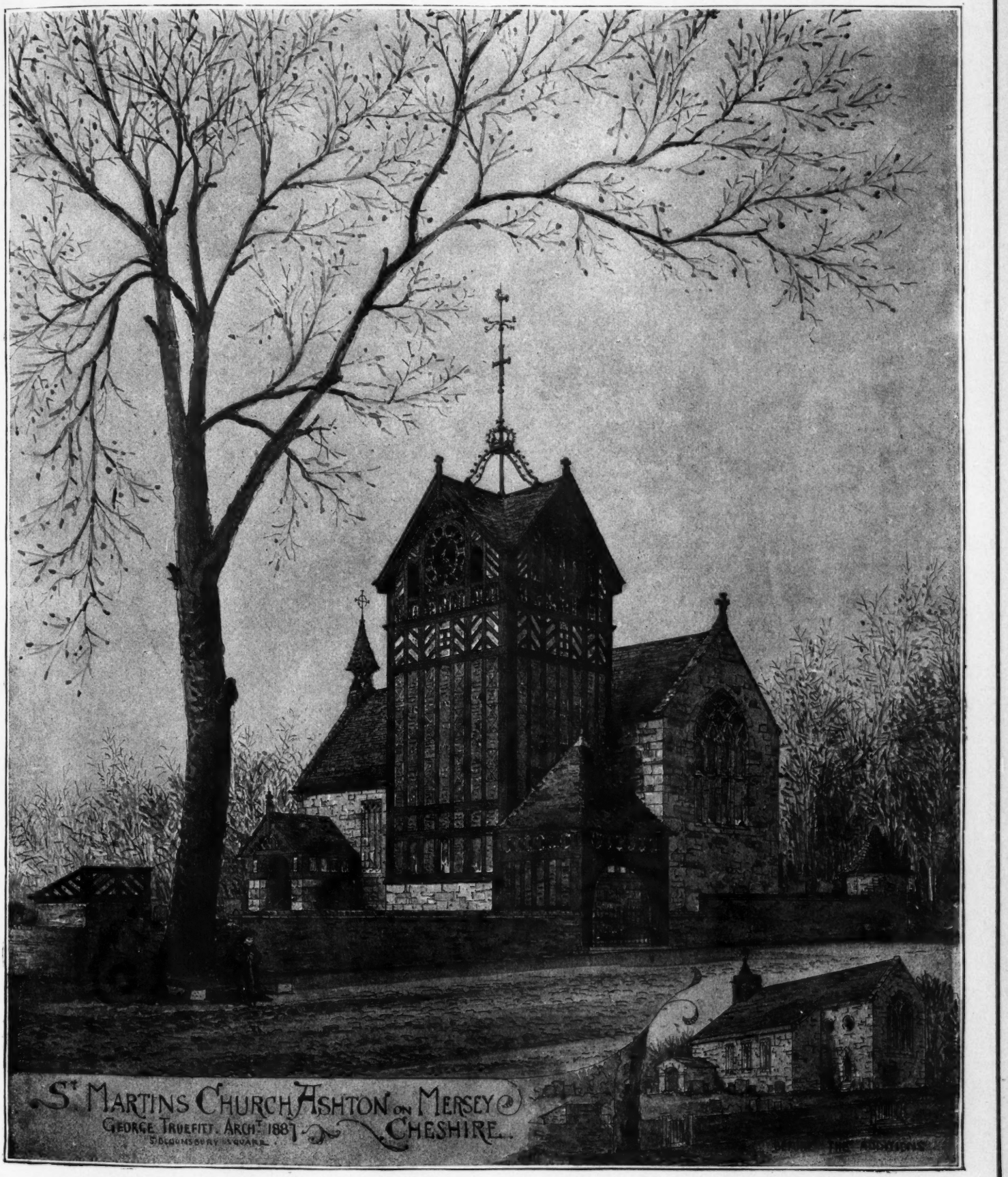


PHOTO-LITHO., SPRAGUE & Co 22, MARTINS LANE, CANNON ST., LONDON, E.C.

COTTAGES, BANSTEAD, SURREY.—Mr. Herbert D. Appleton, F.R.I.B.A., Architect.

PHOTO-LITHO. SPRAGUE & Co 22, MARTINS LANE, CANNON ST, LONDON, E.C.

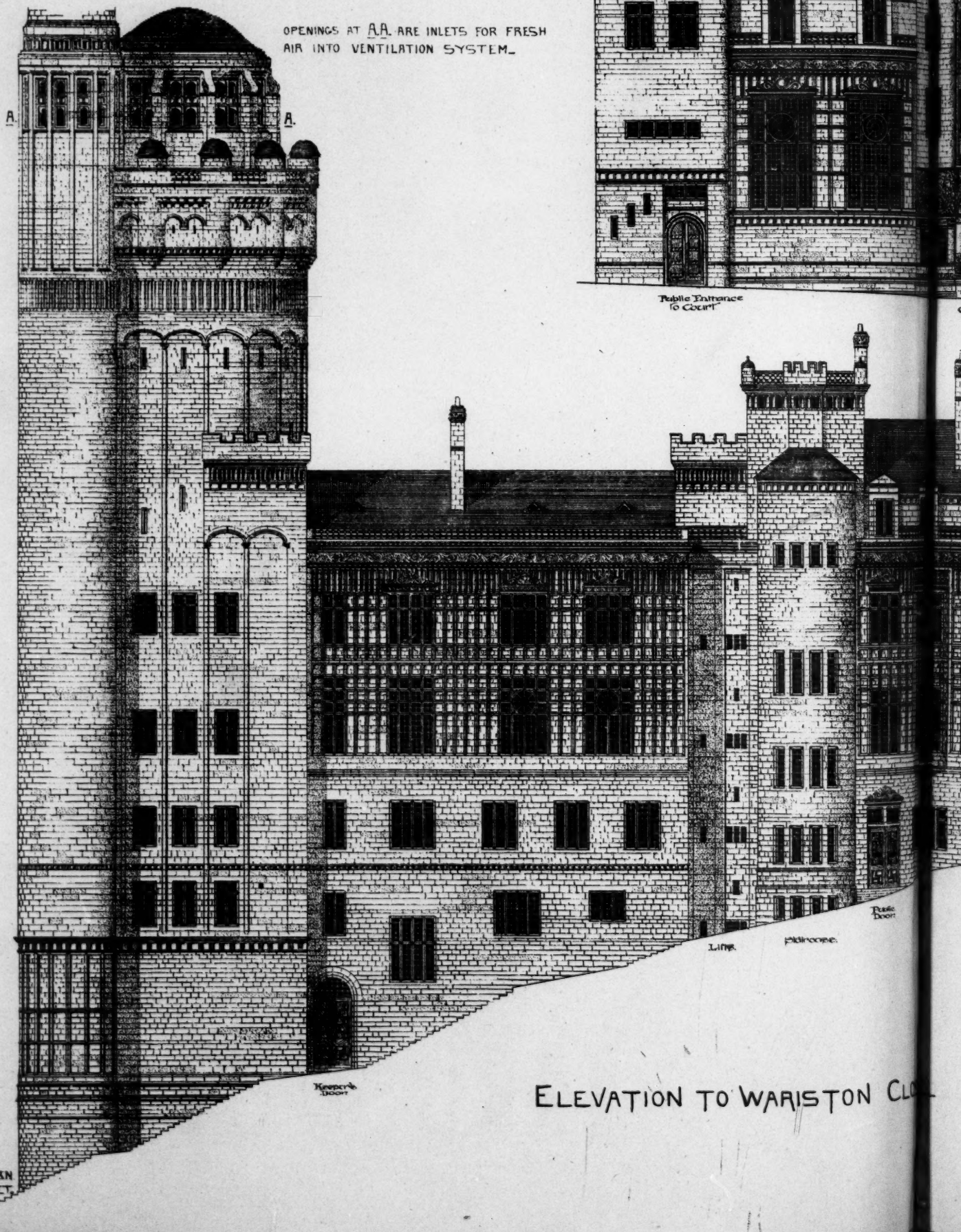
HOUSE, SUNDRIDGE AVENUE, CHISLEHURST.—Mr. Herbert D. Appleton, F.R.I.B.A., Architect.



The Phototype Co., 303, Strand, London.

DESIGN SUBMITTED IN EDINBURGH MUNICIPAL BUILDINGS COMPETITION

By Mr. H. H. STATHAM F.R.I.B.A., and Mr. JOHN SLATER F.R.I.B.A.



ELEVATION TO WARISTON CL

General Entrance.

Allanp Close.

Clydesdale Bank.

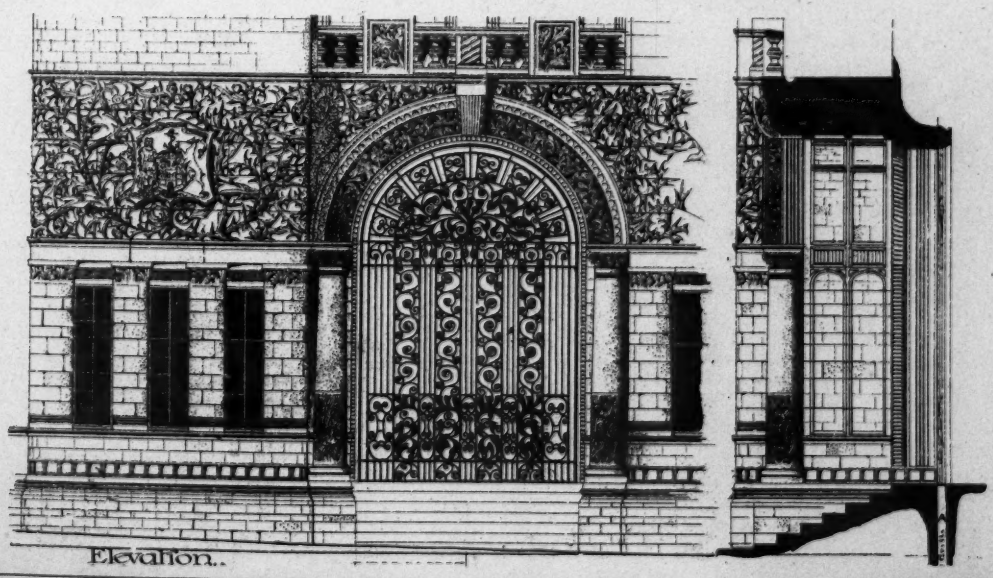
ELEVATION TO HIGH STREET.

0 10 20 30 40 50 FEET.

HIGH STREET.

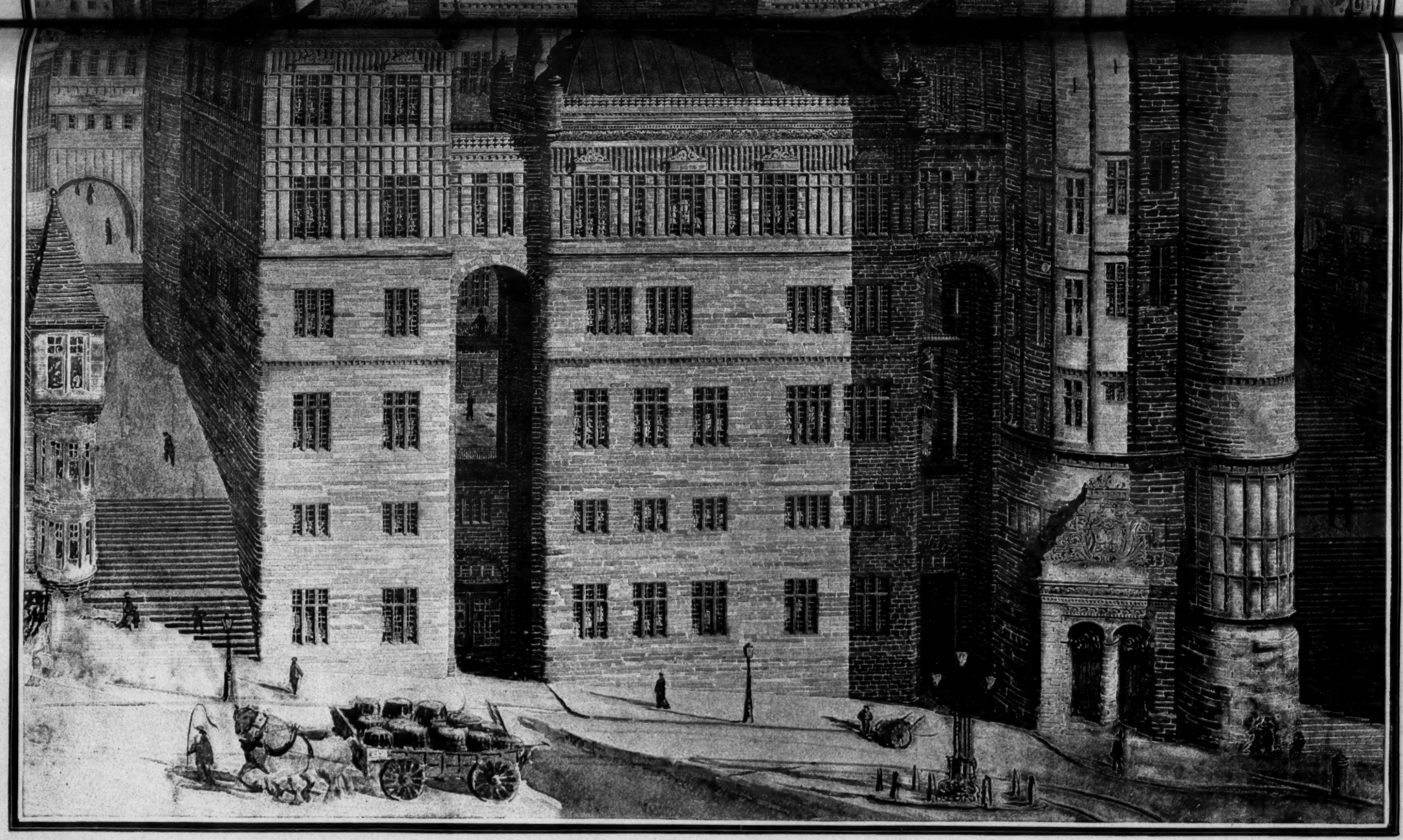
Door to Cellar.

DETAIL OF HIGH STREET ENTRANCE.



Elevation.

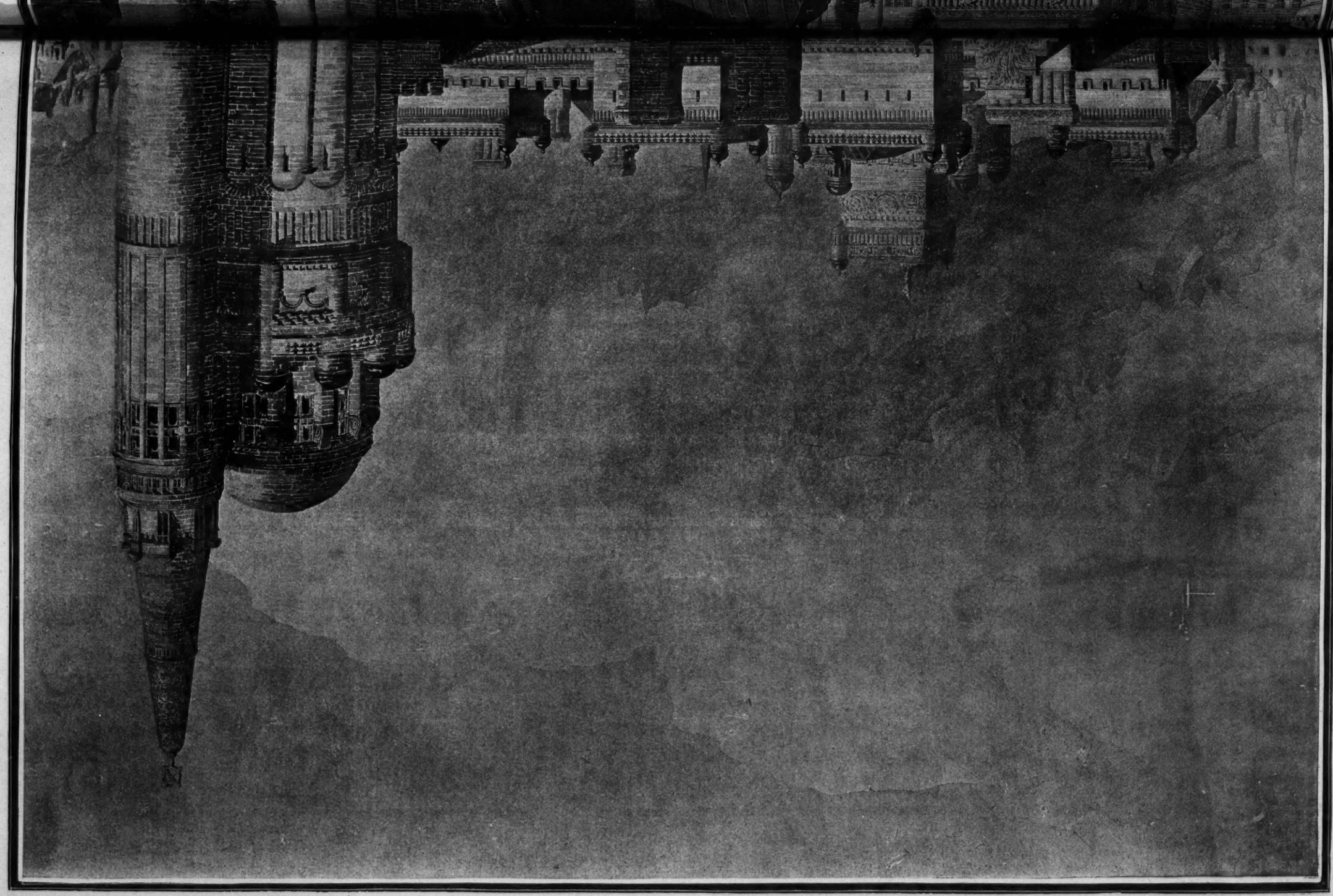
PHOTO-LITHO, SPRAGUE & Co 22, MARTINS LANE, CANNON S., LONDON, E.C.



The Phototype Co., 303, Strand, London.

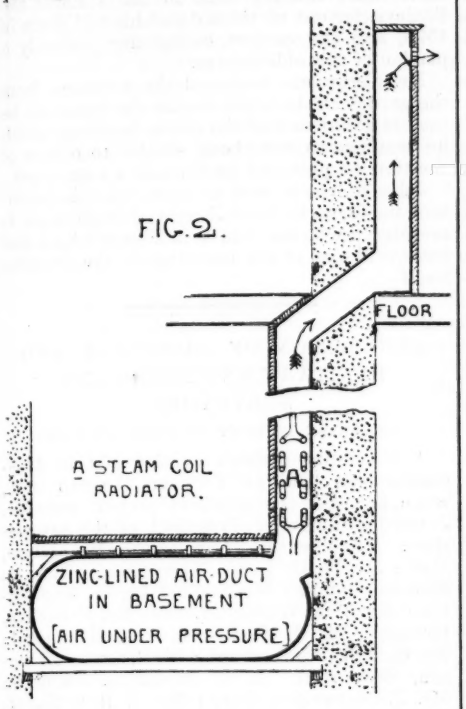
PERSPECTIVE VIEW OF DESIGN SUBMITTED IN EDINBURGH MUNICIPAL BUILDINGS COMPETITION

By Mr. H. H. STATHAM, F.R.I.B.A., and Mr. JOHN SLATER, F.R.I.B.A.



through its dusty condition. The main air-ducts from the blowers would be constructed as shown (see fig. 2), without sharp angles, and would

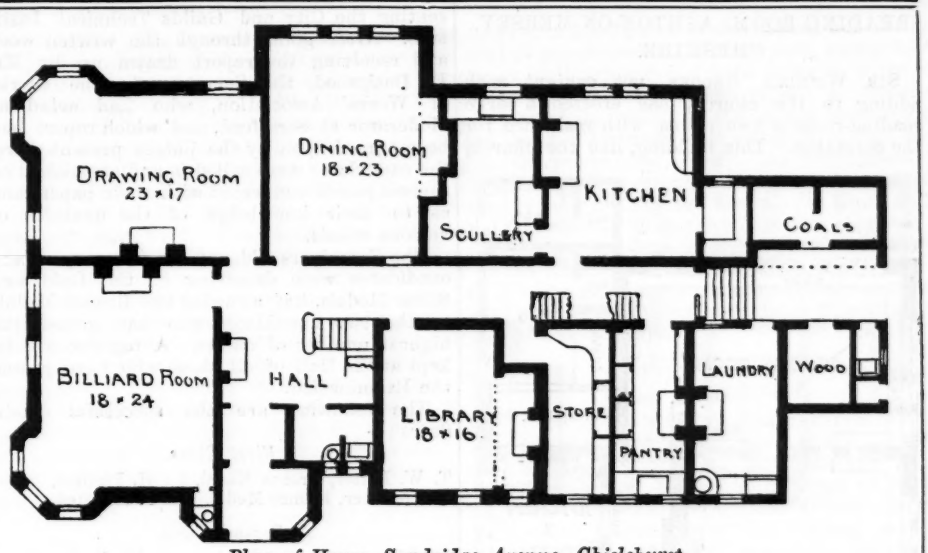
FIG. 2.



be lined with zinc; they would be formed under the floors of the corridors, and would communicate with the chambers containing the radiators. In winter the whole of this air would require to be warmed to a temperature of 60° F.; and although the *average* winter temperature of Edinburgh is 38·5, yet very many colder days are experienced, and it would be safer to assume an external temperature of 25° F. In order to raise the temperature of 35,000 cubic feet of air per minute from 25° to 60°,—allowing for the heat absorbed by the walls, ceilings, &c., of the building,—2,000,000 units of heat per hour would be required, and the most economical means of supplying this amount of heat is by steam, on the principle adopted in the United States, by which whole terraces of houses are heated from one centre. Two-inch steam-pipes would be used, and the temperature would be 240°. It is not proposed, however, to place them in the rooms themselves, but in chambers easily accessible from the basement corridors. These chambers would be in direct communication with the main air-ducts, and would be enclosed with air-tight doors, and from them shafts would lead into the rooms and offices. There would be a valve connected with each set of radiators, enabling them to be shut off if any room or office were not in use; and the condensed water in the pipes would be led back to the engine-room for re-use. The warmed fresh air, under pressure, would be introduced into each room through a grating 7 ft. from the floor level, and outlet shafts would be provided in the opposite wall space. The number of outlets and inlets for each room has been carefully calculated. There would be two sets of outlet-openings,—one near the ceiling for summer use, and one near the floor for winter use, as, if only one outlet near the ceiling were provided, the warmed air would rise at once too quickly towards the ceiling, and would not diffuse itself throughout the room. Draughts would be impossible, as the pressure of air inside the rooms would always be slightly in excess of that in the passages. Open fireplaces are provided for all private rooms, and, wherever practicable, the exhaust-shafts in this case are carried up in proximity to smoke-flues. The other exhaust-shafts discharge into the space between the ceiling and roof, and thence through outlets in the roof.

The w.c.'s and urinals are ventilated on a different principle. Upcast shafts lead from each w.c., &c., to a small room immediately under the roofs, in which is placed an exhaust fan, which sucks up the air from these shafts, and discharges it at once into the open air. It is proposed to drive this fan by a small Siemens electro-motor, connected by wires with a dynamo-machine in the engine-room. This process avoids all passing of air from the closets into the building, all draught of air being *into* the closets, and thence up the exhaust-shafts.

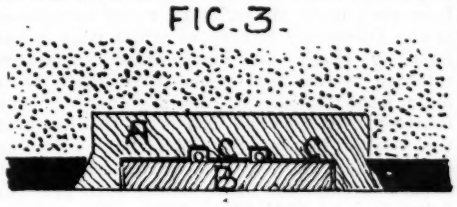
Lighting.—The lighting throughout would be by Swan incandescent lamps, of 20-candle power. Recent improvements in electric light installations now render them perfectly safe, and the use of accumulators obviates the risk of sudden extinction. Three 300-light dynamos, of the Crompton-Bürgin type, are recommended, and it would be advisable to have a spare one for use in an emergency. Accumulators of sufficient capacity to store current sufficient for the whole building for two hours should also be provided. A switch-board for each room would be provided, and in connexion with it an automatic fusible cut-out, which would prevent the wires of any room being over-heated if by



Plan of House, Sundridge Avenue, Chislehurst.

accident an extra strong current were sent along the main wire. Sketches, showing these fusible cut-outs, are given, where also is shown the method of laying the wires in walls so that they can be examined without any damage to the walls. A wooden fillet, with grooves for the wires, is plugged to the wall, the face of it being flush with the plaster. It is lined with asbestos paper, and rebated for a wooden cover, which is screwed in place after the wires are laid, and can be removed at any time (see fig. 3). One dynamo would be required as an

FIG. 3.



A. Wooden case for wires.
B. Wooden cover.
C. C. Asbestos fireproof packing.

exciter to the motor already mentioned in the tower; but this would be a much cheaper method of driving the fan than if steam were employed.

Engines, Boilers, &c.— Three 40-horse power engines would be required for the electric lighting plant, and one 10-horse power engine for driving the propulsive fans, and, to guard against any accident, shafting should be fitted up, so that on an emergency one of the electric-light engines could be utilised for the fans. Two 50-horse power and two 40-horse power boilers would be sufficient for all purposes, including the steam-heating, and by an arrangement of the valves to the steam-pipes each boiler could be utilised for either purpose."

EPISCOPAL RESIDENCE AND CLERGY-HOUSE, ST. GEORGE'S CATHEDRAL, SOUTHWARK.

THESE buildings, commenced about a year since, have recently been completed. The picturesque group erected by Welby Pugin at the same time as the cathedral, and which was intended to comprise clergy-house, convent, and schools, had long been proved totally inadequate to the increased necessities of the bishop and clergy alone. It was therefore determined by the Right Rev. Dr. Butt, after he had erected large schools in the vicinity, to entirely remodel and extend the existing house so as to provide amply for present requirements. The main entrance to the new building is by a porch and flight of steps in the St. George's-road, opening into a large hall, beyond which is the main staircase. The bishop's house lies to the right on entering, and the clergy wing to the left. Common to both, on the ground-floor, are the large dining-hall and the library; the former 50 ft. by 24 ft., with carved-stone chimney-pieces at either end, and panelled ceiling. On the first floor are the bishop's suite of three reception-rooms, and sitting-rooms for the clergy. On the second and third floors are bedrooms, &c.

The large well-staircase, with its moulded arches on all sides and richly panelled ceiling at the top, forms a special feature. It is amply lighted, mainly by the richest of the tracery windows from the original house. Elsewhere, also, all the old stone and woodwork available has been worked in. The character of the new building is that of the latest Mediæval period, adopted as not contrasting too strongly with the neighbouring cathedral, while at the same time lending itself well to modern requirements. The external walls are of yellow stock-brick, with Ancaster stone dressings to doors, windows, &c. Elsewhere moulded brick has been used for the sake of economy. Internally, while comfort and convenience have been the first consideration, all the finishings are in character with the style adopted.

The architect is Mr. Frederick A. Walters, F.S.A.; the contractors are Messrs. J. Smith & Sons, of Norwood Junction; and Mr. E. A. Harrison has acted as clerk of works.

HOUSE, SUNDRIDGE AVENUE, CHISLEHURST.

THE site of this house in the newly-formed road through Scot's Park, Chislehurst, is fortunate in possessing some good timber.

The house is built of red bricks, Corsham stone dressings, and Yorkshire tiles.

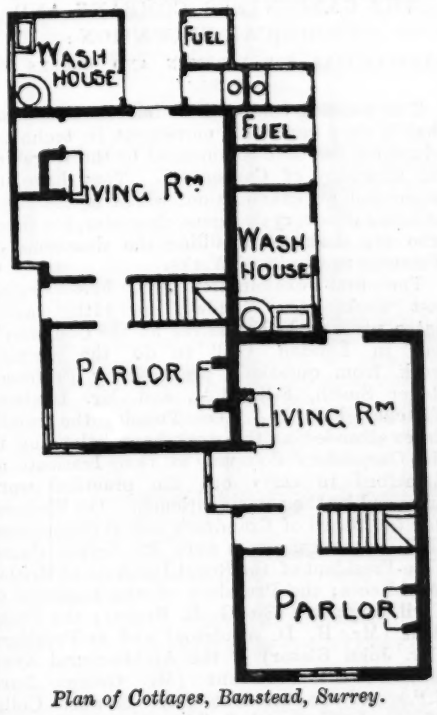
Some slight difficulty occurred in making the design, owing to a variation being decided on after the foundations had been put into another plan.

The grounds have been laid out by Mr. Wilson, of Dulwich.

The building is being carried out by Messrs. Rose & Co., of Sundridge Avenue, Mr. J. Coleman is the clerk of works. The architect is Mr. H. D. Appleton.

COTTAGES, BANSTEAD, SURREY.

THE cottages are to be built with red bricks and tile hanging, at the entrance to a farm



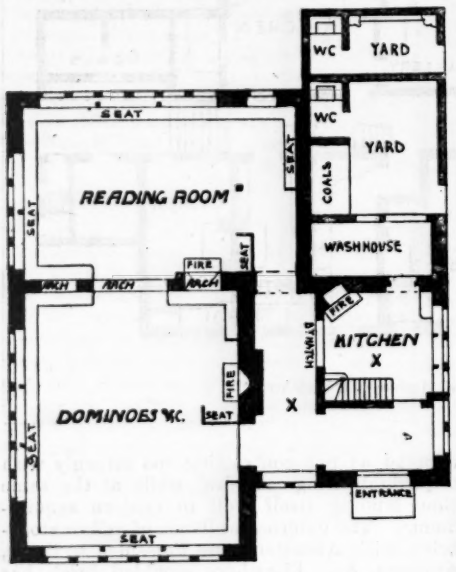
Plan of Cottages, Banstead, Surrey.

road. The formation of the ground governed the planning.

The architect is Mr. H. D. Appleton.

READING-ROOM, ASHTON-ON-MERSEY, CHESHIRE.

SIR WILLIAM BROOKS, not content with adding to the church, has erected a large reading-room or two rooms, with residence for the caretaker. This building, like the church,



Plan of Reading-room, Ashton-on-Mersey, Cheshire.

has also been built in English oak, with tile roofs. Mr. George Truefitt was the architect, and Messrs. Wilson, Tofts, & Huntley, of Manchester, were the builders.

ST. MARTIN'S CHURCH, ASHTON-ON-MERSEY, CHESHIRE.

OUR illustration of this church shows the additions made to it in the shape of a tower, porch, bell-turret, lich-gate, &c., all in the old Cheshire style of "black and white." The work is in oak, of the most solid description, 12 by 12, 9 by 9, and 6 by 6 work throughout. The tower is surmounted with an elaborate wrought-iron vane, with cross, crown, &c.; there is also a large skeleton clock-face of wrought iron. In the tower there are thirteen tubular bells, by Mr. Harrington, of Coventry. The work has been done at the cost of Sir William Brooks, Bart., M.P., as a jubilee gift to Ashton-on-Mersey. Mr. George Truefitt was the architect, and Mr. Webster, of Sale, the builder.

THE CARPENTERS' COMPANY AND TECHNICAL EDUCATION:

EXAMINATIONS FOR FOREMEN AND CLERKS OF WORKS.

THE building trade will be interested to hear that a very important movement in technical education has been commenced by the Worshipful Company of Carpenters. They have inaugurated an examination, which is described as being of a very stringent character, for those who are desirous of filling the situations of Foremen or Clerks of Works.

The first examination was held during last week. On Monday, the 11th, candidates presented themselves at the Company's hall in London Wall to do the written work from questions prepared by Professor Roger Smith, F.R.I.B.A., and Mr. Banister Fletcher, F.R.I.B.A. On Tuesday the candidates attended at the workshops belonging to the Carpenters' Company at their Institute at Stratford to carry out the practical work arranged by the same gentlemen. On Wednesday the Board of Examiners met at Carpenters' Hall. Amongst whom were Mr. Arthur Cates, Vice-President of the Royal Institute of British Architects; the President of the Institute of Civil Engineers (Sir G. B. Bruce); the President (Mr. H. D. Appleton) and ex-President (Mr. John Slater) of the Architectural Association; the President (Mr. George Burt, J.P.) and ex-President (Mr. Howard Colls) of the Institute of Builders; the President and ex-President of the Clerks of Works' Association, and Sir Philip Magnus, representing the City and Guilds Technical Institute. After going through the written work and receiving the report drawn up by Mr. F. Dashwood, the Secretary to the Clerks of Works' Association, who had acted as Moderator at Stratford, and which report had been agreed upon by the judges present there, the candidates were called in and questioned on several points connected with their papers and as to their knowledge of the qualities of various woods.

The Examiners did not consider any of the candidates were deserving of the Gold and Silver Medals, but awarded two Bronze Medals to the two candidates who had gained the highest number of marks. A register will be kept at the Hall of all those who have passed the Examination.

The following are the successful candidates:—

First Class.

T. W. Potter, Bronze Medal.	H. Phillips.
A. Thatcher, Bronze Medal.	J. Marsden.

Second Class.

Silas Evans.	C. W. D. Boxall.
G. W. Chilvers.	T. D. Evans.
D. George.	C. T. Aston.
H. Kent.	T. J. Syer.

ARCHITECTURAL ASSOCIATION VISITS:

BRAMSHILL, HAMPSHIRE.

A NUMBER of members of the Architectural Association on Saturday last visited this historic Jacobean mansion, and were conducted over the building by the Rev. Sir Wm. Cope. Bramshill has been an important residence from very early times, being twice mentioned in the Domesday Survey, at which time it was held by Hugh de Port, whose successors retained it for nine generations, when their male issue failed. In the beginning of the fourteenth century we find it in the hands of the Foxley family, Sir John Foxley having obtained the right to free warren, and also to enclose around his house about 1316–17. Sir John died in 1324-25, and his widow dying shortly afterwards, the property passed to his son Thomas. This Sir Thomas Foxley was made Constable of Windsor Castle, and was appointed, with two others, to survey the workmen engaged on the work, there being carried out "at the least once a month." This fact derives additional interest from the close resemblance which the vaulting of a portion of the existing cellars bears to that in some portions of Windsor Castle, leading to the inference that Sir Thomas probably employed some of the same workmen on his own house. On the death of Sir Thomas Foxley, his son John inherited the property. This baronet was a great friend of the Bishop, William of Wykeham, and this friendship was evidently hereditary, for the Bishop in his will directs that at New College, Oxford, masses were to be said for Sir Thomas Foxley among others. Sir John took a great interest in the private chapel at Bramshill, and obtained permission to have services celebrated therein. This led to considerable trouble, as although the Bishop granted him personally a continual licence to have the service celebrated whenever he was in residence, he limited the time in his licence to the chaplain.

The Baronet, relying on the first document, continued to have the service held until the Bishop sent the Archdeacon to interfere, and ultimately suspended the priest and placed the chapel under an interdict. The dispute was referred to the Archbishop, who arranged the matter amicably, and a private chapel is still part of the house. On the death of Sir John, the property passed through various hands, being held by Lord Daubeney, and then by the Marquis of Winchester, from whom it passed to Lord Zouche, the builder of the present house.

It is supposed by some that this house, commenced about 1605, was intended for Henry, Prince of Wales, son of James I., the supposition being founded on the close connexion of Lord Zouche with the Court, the existence of a prince's helmet in the hall, and the curious central ornament of the principal façade, which, by the help of a more elastic imagination than most of the visitors possessed, may be said to represent the ostrich feathers of the heir apparent. The house was never occupied by the Prince, who died before its completion in 1612. The mansion did not remain long in the hands of its builder, for in 1699 Sir John Cope, son of the fifth baronet, purchased it of Sir Andrew Henley.

There can be no doubt that there was an older house existing here in the time of the Foxleys, for one of them dated his will there in 1378, and the vaulted cellars are probably a portion of this older house.

Mr. Fergusson supposed the entrance from the garden to the court inside the house to be the old gate-house of the earlier building, which he imagined to have been similar to others of the time on plan, and built round a court-yard.

John Thorpe is said to have been the architect employed by Lord Zouche, though there is no reference to the house in Thorpe's book and little evidence of his handling in the building itself.

ASSOCIATION OF MUNICIPAL AND SANITARY ENGINEERS AND SURVEYORS:

YORKSHIRE DISTRICT MEETING AT YORK.

A YORKSHIRE district meeting of this Association was held at York on the 9th inst., when, amongst the members present were Mr. J. Gordon, Leicester, President of the Association; Mr. Spencer, Newcastle; Mr. White, Hull; Mr. W. G. Laws, Newcastle; Mr. J. M. Siddons, Oundle; Mr. Samuel Taylor, Bridlington; Mr. T. N. Wallace, Louth; Mr. J. Buchan, Grimsby; Mr. J. W. Brown, West Hartlepool; Mr. G. Ball, Scarborough; Mr. Thomas Mallinson, Selby; Mr. A. H. Mountain, Swinton; Mr. J. Cartwright, Bury; Mr. E. R. S. Escott, Halifax; Mr. Richard Brierley, Newton-in-Makerfield; Mr. Wm. Spinks, Dukinfield; Mr. J. Mawson, Crompton; Mr. A. E. McBeath, Sale; Mr. Thomas W. Stainthorpe, Eston; Mr. H. C. Crummack, Hartlepool; Mr. Henry Marks, Dewsbury; Mr. T. de Courcy Meade, Hornsey; Mr. T. J. Nickols, Leeds; Mr. Webster, Malton; Mr. Fowler, Manchester; Mr. W. G. Penty, York; Mr. J. Adams, York; Mr. Gamble, Grantham. There were also present as visitors Mr. J. N. Alvord, C.E., Lake View, Illinois, U.S.A.; Mr. Walter Jennings, London; Ald. Sir Joseph Terry, Mr. Ald. W. Surtees Hornby, Mr. Ald. Thomas Walker, Mr. Ald. J. Brown, Mr. George McGuire, Town Clerk; Mr. S. W. North, Medical Officer of Health; Mr. T. W. Barrow, City Accountant; and other gentlemen. Having been formally welcomed by the Lord Mayor of York (Mr. Alderman Rymer), the party afterwards inspected various works in the city. They first went to see the wood-paving that is being put down in Low Ousegate. Some of the members took exception to the laying of the wood as soon as the concrete was laid, and doubt was expressed as to whether the asphalte expansion joint was necessary. They next proceeded to the Skeldergate Bascule Bridge, the working of which was explained by Mr. Mawbey, the bridge being opened and closed in the presence of the company. Thence they proceeded to the works of Sir Joseph Terry & Sons. They next viewed a portion of cement paving, and afterwards proceeded to the Foss Islands, where they were shown the working of Messrs. Adams & Co.'s new patent automatic sewer-flushing syphon. The work of restoration of the Bar walls was also inspected, after which the party proceeded to the York New Waterworks, where they were conducted over the works by Mr. J. F. Taylor, the chairman of the company, and Mr. Barbey, the resident engineer. The works were fully explained and various questions answered.

In the afternoon a meeting was held in the Council Chamber, when the chair was taken by the President, who stated that the first business before the meeting was the election of an honorary secretary for the district. Mr. Mawbey, the City Surveyor, was unanimously elected.

Mr. E. G. Mawbey, Assoc. M. Inst. C.E., City Surveyor, read a paper on "Municipal Work in York." He said since the meeting of the Association in that city in 1882, York had made great progress. At that time the population within the municipal boundary was about 50,000, the area 1,971¾ acres, and the rateable value about 182,000*l.*; but in the year 1884 the Corporation went to Parliament for an extension of their boundary and for other necessary provisions, and succeeded in obtaining the "York Extension and Improvement Act, 1884"; consequently the estimated population is now about 71,000, the area 3,553½ acres, and the rateable value about 236,158*l.* There are two building inspectors. During last year plans

were passed for 260 houses, of which 254 were completed, and at the date of the report 156 were in course of erection. Alterations and additions were made to 48 houses, about 60 other buildings were completed, and 22 were in course of erection. 345 works of a structural nature were also carried out under this department for the abatement of nuisances or the improvement of sanitary arrangements, and in all about 6,400 inspections of work, &c., were made by the building inspectors during the year. The Corporation were fortunate in possessing as chief of the sanitary department such an able and indefatigable Medical Officer as Mr. S. W. North, whose work and reports were thorough and exhaustive. Under the advice of the Medical Officer, during the summer and autumn months, in localities affected or threatened by infectious disease, the Corporation undertook, free of cost to the owners and occupiers, the removal of night soil and house refuse, the sweeping of the yards and the flushing and deodorising of the private drains as well as of the sewers. He (Mr. Mawbey) had prepared a report and estimate for undertaking the domestic scavenging, and recommended that to commence with a Fryer's four-cell patent refuse destructor with Jones's fume-cremating chamber be constructed at the Foss Islands Depôt. He estimated that the additional expense over the cost at present incurred in domestic scavenging would be about 3,000*l.* per annum, which included the repayment of principal and interest of the sum of about 7,000*l.* required to be expended in additional new stable buildings, plant, and the destructor, &c. Portland cement concrete paving had to some extent been adopted during the last twelve months. It was laid 2½ in. thick on a bed of dry hard rubbish 4 in. thick. The cost, including foundation, had been about 3s. 6d. per yard laid complete. There is at the present time about 9,116 yards of wood paving laid down. The first laid was in 1876 by Messrs. Armstrong, Addison, & Co., with creosoted fir blocks 6 in. deep laid on their own system on a bed of concrete. Although that pavement had been laid for nearly twelve years, the repairs have been very slight, and it was by no means yet worn out, and the blocks are as sound as when laid. The bulk of the remainder of the paving, before his (Mr. Mawbey's) time, was laid with fir blocks, varying in different places from 4 in. to 6 in. deep, on a bed of concrete, chiefly on the system of Mr. George Walker, of Leeds. In this paving the blocks were simply dipped in creosote, and although the work was well done, the paving has in many instances become very much worn, in some places where it has only been down a comparatively short time, and that seems to point to the fact that in York, where the traffic was light compared with some towns, it was desirable to properly creosote the blocks, as was done with Messrs. Armstrong, Addison, & Co.'s paving, as the wood blocks (if creosoted) seemed to stand the York traffic for a much longer time than they lasted before decay took place when not creosoted. Great improvements to the streets were being carried out by the Corporation in the added area, for which a loan of 20,000*l.* has been obtained. The Streets and Buildings Committee were negotiating for the widening of Skeldergate, Gillygate, and Holgate-lane; and at their meeting on the 22nd ult. recommended the Council to authorise the purchase of property and lands required for the widening of Skeldergate, at a cost of 7,900*l.*, which is now confirmed by the Council. A few months before he (Mr. Mawbey) was appointed, Mr. James Mansergh, C.E., of Westminster, was engaged by the Corporation to prepare a scheme which has been submitted to them in alternative suggestions, one scheme estimated to cost about 106,000*l.*, and the other about 113,000*l.*, and he had recently, by an amicable arrangement, been associated with Mr. Mansergh in that matter. The Corporation will doubtless shortly apply for the necessary powers to carry a scheme into execution. The City Walls were now being restored under his supervision. The contract had been let to Mr. Joseph Clarke, of York, for the sum of 3,254*l.* By carrying out that work a public promenade will be formed and opened out on the walls from Monk Bar to Bootham Bar, a distance of about 650 yards. The parapets where now plain are being crenellated as of old, the bastions raised, crenellated, and loopholes formed therein, and a new bastion erected at the north-west angle of the Lord Mayor's Walk, on the site of an ancient bastion. The Council had approved of the recommendation of the Markets Committee for the erection of a new covered egg and butter market, according to his designs, at an estimated cost of 3,000*l.* Alterations and additions to the Borough Court within the Guildhall, and the erection of police cells and lavatories in the Guildhall yard, designed by himself at a cost of about 1,200*l.*, were to be immediately proceeded with. The Council had also adopted his suggestions for the necessary alterations to the theatre, to provide improved means of exit by additional staircase accommodation, &c., and for fire-extinguishing appliances. The drawings were now exhibited, and the specifications and bills of quantities were being prepared. The cost is estimated at 1,520*l.* The Council were considering the question of the erection of municipal offices, for which he had prepared alternative preliminary plans. The Watch Committee had approved of the erection of police and fire brigade stations on the Clifford-street site, at a cost of about 7,000*l.*, and it had been decided, in consequence of the great amount of work in the Surveyor's department, to obtain competitive designs. A new lock at Naburn, which was now nearly completed, and which H.R.H. Prince Albert Victor has consented to open, has been constructed for the Corporation, acting as the Ouse Navigation Trustees, at a cost of about 10,000*l.* The lock has been designed by Mr. John Fowler, C.E., of Stockton-on-Tees, assisted by his son, Mr. A. F. Fowler, C.E., who has also acted as resident engineer. The contractors are Messrs. Nelson & Son, of York. Mr. Mawbey also referred to the fact that the Council were about to carry out certain improvements on the river Foss. He had prepared plans and estimates for the lengthening of Castle Mills Lock and for works of dredging and piling, at an estimated cost of 5,000*l.*, but it was ultimately resolved, having regard to the great amount of time and labour which he would have to bestow upon the sewerage and other schemes proposed or contemplated, and to the fact that the services of Mr. A. F. Fowler would be available for the purpose now that the Naburn Lock is drawing near completion, that Mr. Fowler should be employed as the engineer for this work, and this gentleman has prepared a scheme, but it has not yet been finally decided to carry out the work.

A discussion followed, in the course of which, Mr. Laws (Newcastle) said he had noticed from the paper that they were about to adopt Fryer's destructor in York. They had had one in use in Newcastle for the past eighteen months. The use of the destructor was almost forced upon them by the fact that a large quantity of shop-sweepings were mixed with the night soil, which considerably affected its sale. Between 30 and 40 tons of that was burned per day, with the result that they got a better price for the ordinary manure from the farmers. The cost of the labour in connexion with the destructor was between 6½d. and 7d. per ton, and if they added so much per cent. for other charges they brought it up to about 11d. per ton. What they destroyed contained quite sufficient carbon to burn itself, and they got as residuals ashes which were used largely in paving, and clinkers, of which they made concrete. The destructor was kept going night and day, and the cost of repairs had not been more than 30*l.* He stated that in Newcastle they were encouraging the water-closet system, and supplied to the inhabitants tubs at 3s. 6d. each, into which ashes, &c., could be put, and which were emptied periodically by the Corporation.

Mr. Cartwright (Bury) was pleased that so much care was taken in York in connexion with the inspection of new buildings. He thought they would find it very much to their gain and also to the comfort of the inhabitants if the Corporation undertook the entire removal of the refuse of the town. The footways and carriageways of the city were very much improved since he last visited York. In putting down wood-paving he said he failed to see the necessity for leaving a groove for the expansion of the material, and he ventured to suggest that the concrete was not left to harden sufficiently before the pavement was put down.

Mr. Fowler (Manchester) referred to the fact that York was about to undertake a sewage scheme, and he cautioned York to take notice of Manchester, where they had about the highest death-rate of any town in the kingdom, for in some parts of the town it was as high as 40 per thousand. If they were going to have a large scheme, and were going to carry it out with firmness, without regard to expense, so far as the health of the people was concerned, he would simply say, scavenge at one end of the sewer (hear, hear). At Nottingham they had a grand sewage scheme, but they scavenged at both ends of the sewer. He hoped at York they would scavenge at one end only, and that it would be done in such a way that it would be an example for the rest of the country.

The members were subsequently entertained by the Lord Mayor and Lady Mayoress at the Mansion House.

OBITUARY.

Mr. John Wakeford, Assoc.-M.Inst.C.E.—We notice with regret the death of Mr. John Wakeford, Assoc.-M.Inst.C.E., Assistant Borough Engineer of Belfast, at the age of 54 years. With his death terminates a long and useful career in several of the leading centres of England, and more especially for the last twenty-two years in Belfast, where, in conjunction with Mr. J. J. Montgomery, M.Inst.C.E., the late Borough Engineer, and during the last four years with Mr. J. C. Bretland, M.Inst.C.E., who now holds that office, he has discharged onerous duties in connexion with the important works promoted by the Belfast Corporation. For the last two years the deceased was associated with Mr. Bretland in designing the system of intercepting sewerage, embraced by the somewhat notable Belfast Main Drainage Act passed last year. This undertaking is estimated to cost 300,000*l.*, and the contract for the first section is advertised in our columns to-day. Among the latest operations upon which Mr. Wakeford was engaged was the preparation of the contract for the new Albert Bridge, Belfast. This bridge has just been commenced, and will involve an expenditure of about 40,000*l.* The death of Mr. Wakeford is felt deeply by all his colleagues, by whom he was highly esteemed and respected. Mr. Wakeford leaves a widow and one son, Mr. Percy Wakeford, who has adopted the architectural profession.

"DRY ROT."

SIR,—Noticing in your issue of the 16th inst. [p. 435] the inquiry made by "G. F. T." with reference to "Dry Rot" in joists which he had recently fixed over billiard and drawing rooms, I would suggest that if a wet sound-proof pugging has been used between joists in the usual way, this, at least to a certain extent, is the cause.

To get over that difficulty, as it is presumably necessary to sound-proof drawing and billiard rooms, I would suggest that a sound-proof medium, such as silicate cotton or slag wool, which is perfectly dry, be made use of instead of the ordinary mortar pugging.

From my experience I believe that the silicate cotton would have a tendency to absorb any moisture that might be in the joists, and in other ways protect them from "Dry Rot."

PAUL LAMBERTS.

SIR,—In reference to communication of your correspondent, "G. F. T.," in your issue of the 16th inst. [p. 435] on above subject, I may state that the case, as he represents it, is not at all unprecedented, but a common occurrence. I had to treat a similar case only a few weeks ago. Wherever dry or damp rot is found, water and defective ventilation are the cause. This may occur in various ways: it may be by water coming through the roof and running down main walls, causing a damp atmosphere, which, if imprisoned, will produce a fungus resulting in rot; or it may be in the material used in the building. In the case referred to, the cause seems to have been the covering in of the walls too soon, imprisoning damp atmosphere, creating fungus, which has eaten and destroyed the woodwork.

The only effectual cure for this is a system of thorough ventilation. In the case to which I refer, I caused all the plaster and woodwork to be cleared away, had the lime picked out of all the joints in the main walls, the main walls all washed down with hot lime to destroy all seeds of fungus, then introduced a system of ventilation to give a free passage of air to covered woodwork. This I know to be the only sure and efficient remedy, and easy of application.

VENTILATOR.

LINOLEUM ON FLOORS.

SIR,—Will you permit me to inquire if any of your readers have, in the course of their experience, found that linoleum causes floor-boards to become rotten, on a ground-floor,—with proper ventilation under the floor,—as a case has recently been brought under my notice of a rotten floor,

which is alleged to have been caused by the use of floor-cloth?

I should be glad to know if this has been found to be the case elsewhere, being about to lay some down in a new building. T. J.

*** If the floors were not well ventilated from below, no doubt the employment of a covering impervious to air would make the case worse.

HYDRAULIC DERRICK CRANE.

THE illustration represents a hydraulic crane now in use by Messrs. Mowlem & Co., in the erection of some buildings at the corner of Parliament-street, and which is worked by power supplied by the London Hydraulic Power Company.

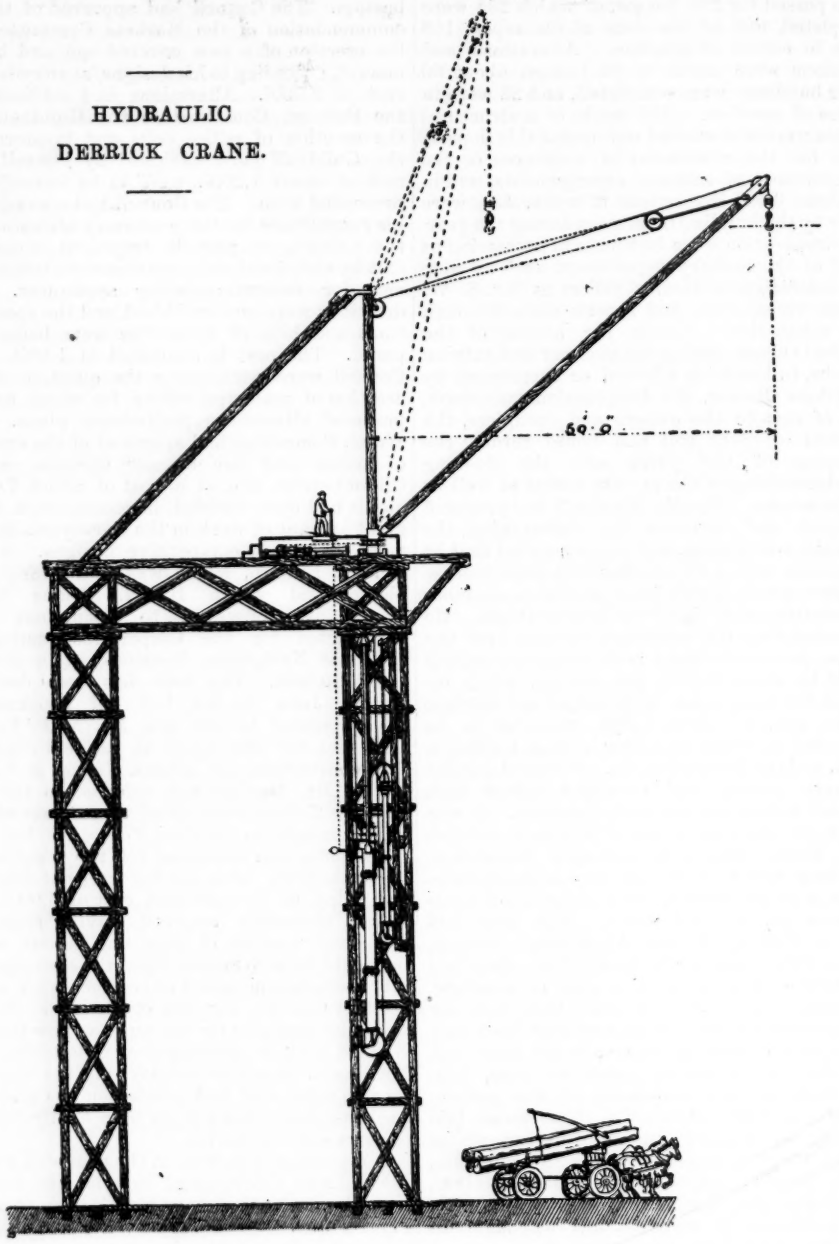
The machinery, which is all attached to the timber structure carrying the crane, consists of cylinders with rams working in them carrying at their extremities pulleys over which the ropes pass, the arrangement being exactly the reverse of the ordinary block tackle.

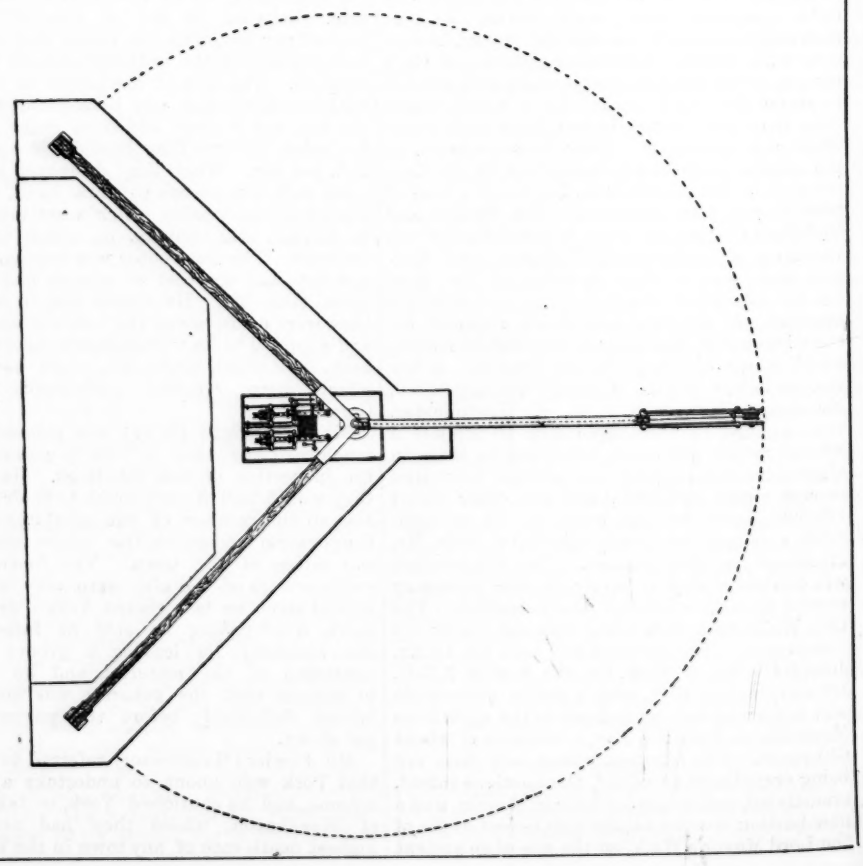
The loads are lifted with unusual steadiness and silence, owing to the use of a steel wire-rope instead of a chain, and the lifting cylinder is so constructed that if a load of less than the maximum allowed for is to be raised, a correspondingly smaller quantity of water is taken from the mains.

The rake of the jib is increased or diminished at pleasure by a second cylinder, and the turning of the jib is also effected by hydraulic pressure. The various motions are under perfect and instantaneous control by the simple movement of a lever.

The machinery in use at Parliament-street was designed and constructed by the Hydraulic Engineering Company of Chester and London.

HYDRAULIC
DERRICK CRANE.





The Student's Column.

IRON.

XXV.—PILLARS.

FOR solid and hollow round cast-iron pillars, fixed at both ends or flat and bedded with extreme care, whose length exceeds 30 diameters, Hodgkinson deduced the following formulæ from his experiments:—

Solid, with ends fixed or flat, $W = m \frac{d^{3.5}}{l^{1.63}}$

Hollow, ,, ,, ,, $W = m \frac{d^{3.5} - d_1^{3.5}}{l^{1.63}}$

where W = the breaking-weight in tons.
l = the length of the pillar in feet.
d = the external diameter in inches.
d_1 = the internal diameter in inches.
m = a coefficient varying with the quality of the cast iron and derived from experiments.

The mean value of $m = 42{\cdot}6$ tons.

If the ends of the pillars are rounded or imperfectly fixed or imperfectly bedded, the breaking-weight found by the formula must be divided by 3.

Pillars of medium length will fail (as previously explained) partly by flexure and partly by the crushing of the material, so that the formulæ for pillars over thirty diameters in length will require some modification before they can be applied to shorter pillars.

To effect this, Hodgkinson devised the following formula for medium pillars, to be applied as a correction to the above formula:—

$$W^1 = \frac{W c}{W + \frac{3}{4} c}$$

where W = the breaking-weight in tons, derived from one of the formulæ for columns over thirty diameters.

c = the crushing-weight of a short length of the pillar, *i.e.*, its sectional area multiplied by the crushing unit strength of the material in tons.

W^1 = the real breaking-weight of the medium pillar in tons from the combined effects of flexure and crushing.

The following formulæ for the strength of pillars are generally known as Gordon's formulæ, but were originally suggested by Tredgold. The results obtained from them agree very closely with Hodgkinson's experiments, and for columns under 25 diameters they are more reliable than Hodgkinson's formulæ. Owing to their convenience they are very generally used in practice.

Pillars with both ends flat and bedded with extreme care,—

$$f=\frac{a}{1+br^2}$$

Pillars with both ends round or imperfectly fixed,—

$$f=\frac{a}{1+4br^2}$$

Where f = the breaking-weight per square unit of section.

r = the ratio of length to diameter or least breadth.

a and b = constants depending on the material and the section of the pillar, "a" being a close approximation to the unit crushing-strength of the material.

f in these formulæ giving the breaking-weight per unit of section, it will be necessary to multiply the result by the sectional area of the pillar to obtain its breaking-weight. The values of the constants a and b for pillars of different sections are as follow:—

Solid or hollow round cast-iron pillars, a = 36 tons, $b=\frac{1}{400}$.

Solid or hollow rectangular pillars of cast iron, a = 36 tons, $b=\frac{1}{300}$.

Solid rectangular wrought-iron pillars, a = 16 tons, $b=\frac{1}{4000}$.

Iron pillars of L T C and + sections, a = 19 tons, $b=\frac{1}{900}$.

In each of these sections the least diameter must be measured for calculation in the direction in which the pillar is most flexible.

For steel pillars, Mr. B. Baker gives the following values for the co-efficients of Gordon's formulæ:—

Solid Round Pillars.

Mild steel.—a = 30 tons, $b=\frac{1}{1400}$.
Strong steel.—a = 51 tons, $b=\frac{1}{900}$.

Solid Rectangular Pillars.

Mild steel.—a = 30 tons, $b=\frac{1}{2480}$.
Strong steel.—a = 51 tons, $b=\frac{1}{1600}$.

RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

JUNE 7.

By WORSFOLD & HAYWARD (at Dover).

Dover—4 and 5, East-lane, freehold	£700
65, Dour-street, 72 years, ground-rent £2. 4s.	305
6, Lime Kiln-street, 7 years, ground-rent £2. 9s.	155
1, 2, 11, and 12, Bulwark-street, 44 years, ground-rent £21. 15s.	396
19, Oxenden-street, 16 years, ground-rent 7s.	105
39, Strond-street, 7 years, ground-rent £2.	95
Commercial-road—The Wellesley beerhouse, 44 years, ground-rent, £7	180

JUNE 11.

By FULLER, MOON, & FULLER.

Fulham—85 to 93 odd, Rylston-road, and the Lord Clyde public-house, 70 years, ground-rent £12. 5s.	3,100

By W. & F. HOUGHTON.

Walthamstow—Walthamstow Lodge, and 5a. 0r. 16p., freehold	4,400
A plot of freehold land	1,250
Two houses in Markhouse-road, 52 years, ground-rent £16	505

By G. GOULDSMITH, SON, & Co.

Knightsbridge—28, Montpelier-street, 39 years, ground-rent £12. 12s.	705
8, Rutland-street, 37 years, ground-rent £5	270

By DRIVER & PERFECT.

Catford Bridge—6, Rutland Park-villas, freehold	500
Bromley—142 and 143, High-street, freehold	1,510

By G. A. BICKERTON.

City—125, Cannon-street, freehold	6,600

JUNE 12.

By J. MORGAN.

Forest Gate—Seven houses in Godwin-road, freehold	2,150
Sutton—The residence called Sherwood Villa, 95 years, ground-rent £6. 15s.	310

By SHERRIN & COLTMAN.

Kentish Town—82 and 84, Victoria-road, 45 years, ground-rent £9	405

By J. & W. JOHNSON & Co.

Leyton—1 and 2, Lily-road, freehold	295
Dalston—32 and 34, Mayfield-road, 33 years, ground-rent £10	500
Spitalfields—33 and 34, Dorset-street, and 1, 2, and 3, New-court, freehold	1,000
Hackney—1 to 5, Davis's-cottages, freehold	260

By DEBENHAM, TEWSON, & Co.

Peckham—92 and 94, High-street, freehold	5,000
Denmark Hill—33 and 35, High-street, freehold	1,310
Fulham, Lillie-road—Ground-rent of £8, reversion in 94 years	175
Tilton-street—Ground-rent of £10, reversion in 96 years	210
Clapham-road—Nos. 174 and 176, term 57 years, ground-rent £18	1,550

By CHINNOCK, GALSWORTHY, & Co.

Clapham, Lavender Hill—Three freehold residences, and 6a. 0r. 18p.	26,400

By THURGOOD & MARTIN.

Old Kent-road—29, Albany-road, freehold	540
Peckham—42 to 50 even, Clifton-crescent, 65 years, ground-rent £22. 6s. 8d.	1,100
Kennington—192 to 198 even, Farmer's-road, 77 years, ground-rent £19	660

By ROGERS, CHAPMAN, & THOMAS.

Pall Mall—No. 20, freehold, area 1,120 ft.	£15,100
Cavendish-square—52, Wimpole-street, 11 years, ground-rent £60	1,840
71, Wimpole-street, 9 years, ground-rent £25	650
26, Queen Anne-street, 8 years, ground-rent £45	580

By MULLETT, BOOKER, & Co.

Hyde Park—42, Porchester-terrace, 41 years, ground-rent £31. 10s.	5,060
15, Hyde Park-gardens, 45 years, ground-rent £89. 5s.	8,500

By WALTON & Co.

Rotherhithe—7 and 9, Rudford-road, 87 years, ground-rent £9	185

By S. HIGGINS.

Edgware-road—No. 151, term 32 years, ground- rent £10. 10s.	980
26, Titchborne-street, 32 years, ground-rent £7. 7s.	520
Ground-rents of £60. 18s., term 7½ years	650

By S. & G. KINGSTON (at Spalding).

Surfleet, Lincolnshire—Freehold land, 16a. 0r. 24p.	515
Pinchbeck—Freehold house, and 5a. 1r. 14p.	355
Two enclosures of land, 18a. 2r. 36p. freehold	585
Spalding—A parcel of freehold and part copyhold land, 9a. 1r. 8p.	290

JUNE 13.

By S. WALKER & RUNTZ.

Walworth—34, Heygate-street, 73 years, ground-rent £5	140

By HUGH RUGG.

Poplar—1 and 2, Preston's-road, freehold	280
288, High-street, freehold	600

By T. MAY.

Beckenham, Birkbeck-road—Cleveland Villa, freehold	480

By ROBSON & PERRIN.

Finsbury Park—127, Lothair-road, 90 years, ground-rent £6. 6s.	300

By W. A. BLAKEMORE.

Northumberland-avenue—Ground-rent of £1,000 a year, reversion in 76 years	26,400

By H. DONALDSON.

South Hornsey—6, Cowper-road, 68 years, ground-rent £4	210
Balls Pond—8, King Henry's-walk, 51 years, ground-rent £6	300
Lavender Hill—40 and 42, Ilminster-gardens, 91 years, ground-rent £16. 11s. 6d.	1,000

By VENTOM, BULL, & COOPER.

Notting Hill—1, Portobello-terrace, 55 years, ground-rent £20	1,200
3, Ladbroke Grove-road, 75 years, ground-rent £8	1,570
Battersea—48 and 50, Cabul-road, 89 years, ground-rent £12	500

JUNE 14.

By VAUGHAN & Co.

Stock, Essex—The Plantation, and 3 acres, freehold	875

By E. STIMSON.

Battersea—58 to 61, Palmerston-street, 73 years, ground-rent £18	950
Camberwell—29 and 30, Grosvenor-street, 12 years, ground-rent £20	250
Denmark Hill—13 and 15, De Crespigny Park, freehold	1,430
Balham—2 and 11, Verran-road, 82 years, ground-rent £65	1,350
Walworth—22, 24, and 24a, Steadman-street, 4½ years, ground-rent £39	50

By NEWBON & HARDING.

Barnsbury—3, 5, 11, 13, and 15, Barnsbury-grove, 76 years, ground-rent £27. 12s.	1,085
Brixton—13 and 15, Somerleyton-road, 78 years, ground-rent £16	900
Kentish Town—24 and 26, Carlton-road, 63 years, ground- rent £18	435
Hatton Garden—No. 94, freehold	2,960
Stoke Newington—2, Winston-road, 73 years, ground-rent £5. 10s.	230
6 and 8, Harcombe-road, 75 years, ground-rent £10	435
61, Oldfield-road, 75 years, ground-rent £5	210
Hoxton—36, Grange-street, 42 years, ground-rent £5. 10s.	305

By C. C. & T. MOORE.

Mile End—84, Grove-road, 80 years, ground-rent £5. 10s.	400
5, Morgan-street, 49 years, ground-rent £3. 10s.	300
Commercial-road—No. 630, freehold	500
Old Ford— 35, Vivian-road, freehold	370
9 and 11, Hewlett-road, freehold	785
Bow-road—11, Coburn-road, 29 years, ground-rent £6	250
Plaistow—444 to 454 even, Barking-road, freehold	2,930
St. George's-in-East—25, 27, and 29, Morris-street, freehold	810
31, Morris-street, freehold	850
Commercial-road—19 and 21, Anthony-street, 23 years, ground-rent £4. 4s. 7d.	410
29, 48, and 52, Anthony-street, 12 years, ground-rent £37. 7s. 6d.	185
27 and 50, Anthony-street, 3 years, ground-rent £32	50
1 to 4, Lower Fenton-street, 21 years, ground-rent £7. 10s.	600
44, Lower Chapman-street, 12 years, ground-rent £12	115
62, Jane-street, 12 years, ground-rent £2. 5s. 6d.	90
Stepney—312 and 314, Oxford-street, 58 years, ground-rent £8. 8s.	805
Mile End—315 and 317, Commercial-road, 56 years, ground-rent £60	1,150

JUNE 15.

By PROTHEROE & MORRIS.

Leytonstone, High-road—Four copyhold cottages, and a plot of land	645

By E. ROBINS & HINE.

Battersea—7, Gladstone-terrace, 75 years, ground-rent £5	280
Chelsea—6, Limerston-street, 62 years, ground-rent £5	480

By — GAIGER.

Dalston—4 and 6, Malvern-road, 56 years, ground-rent £10	650
East Dulwich—82 and 84, Henslow-road, freehold	485

By WALLEN & CLUNN.

Beckton, Essex—Freehold land, 31a. 0r. 15p.	3,200
Ratcliff, Brook-street—The King's Head public-house, freehold	800

By E. HOLSWORTH.

Stamford Hill—79, Kyverdale-road, 92 years, ground-rent £6. 10s.	£380
Stoke Newington—7 to 17 odd, John's-road, 96 years, ground-rent £36	1,480
8 and 54, Sandbrook-road, 75 years, ground-rent £10	410
49 and 60, Oldfield-road, 76 years, ground-rent £10	430
Farleigh-road—The Acubas, term 94 years, ground-rent £18	220
Victoria-grove—Aylesbury and Blomfield Cottages, 30 years, ground-rent £10. 10s.	205

By NORMAN, SON, & BOWEN.

Poplar—39, Cotton-street, freehold	300
Canning Town—65 and 67, Tetley-street; and 69 to 77 odd, Tetley-street, 54 years, ground-rent £17. 10s.	950
Lewisham—169 and 171, Rushey Green; and 1 to 4, Sangley-road, 6 years, ground-rent £32	110

MEETINGS.

SATURDAY, JUNE 23.

Association of Municipal and Sanitary Engineers and Surveyors.—Northern District Meeting at Carlisle.

Glasgow Architectural Association.—Visit to Largs and Millport.

MONDAY, JUNE 25.

Royal Institute of British Architects.—Presentation of the Royal Gold Medal to Theophilos Freiherr von Hansen, and other medals and prizes. 8 p.m.

TUESDAY, JUNE 26.

Society of Engineers.—Visit to the works in progress of the Tower Bridge. The party to meet at the entrance, at the foot of Little Tower-hill, at 3·30 p.m.

WEDNESDAY, JUNE 27.

Builders' Foremen and Clerks of Works' Institution.—Half-yearly meeting of the Directors. 8·30 p.m.

THURSDAY, JUNE 28.

Society of Antiquaries.—8·30 p.m.

SATURDAY, JUNE 30.

Architectural Association.—Visit to Yattendon, near Reading. (See advertisement on first page.)

Miscellanea.

Sale of Building Land at Basingstoke and Tooting.—On Monday, Messrs. Baker & Sons offered for sale, in ninety lots, a portion of the South View freehold estate, Basingstoke, Hampshire. A numerous party was taken down by train from Waterloo in order to attend the sale, and on arriving at Basingstoke several conveyances took the company to view the estate, which is situated on high ground, a short distance from the town, and possesses commanding views overlooking the borough and the hills of Northern Hampshire. Already several houses have been erected on the estate. The sale took place at the town-hall, and before it commenced, Mr. Baker, the auctioneer, called upon Mr. Fox, a local surveyor connected with the property, to address the company. That gentleman stated that the estate was situated on the highest ground near the town, and he considered was the most valuable uncovered land in the district. Mr. Baker, in offering the property, said the town of Basingstoke had made greater proportionate increase in population during late years than any other town in Hampshire, and that additional houses were greatly needed. The several plots submitted varied considerably in area, the frontages ranging from 18 ft. to 30 ft., and the depths from 110 ft. to 190 ft. Nearly all the plots were sold, the smaller plots realising from 24*l.* to 25*l.* each; those having frontages of 24 ft., 35*l.* each; whilst the larger plots, having frontages of 30 ft., were sold at from 47*l.* to 48*l.* each.——On Tuesday evening, Mr. W. R. Norris offered for sale, at the Mitre Hotel, Tooting, thirty-six plots of freehold building land, at Tooting, belonging to the Birkbeck Freehold Land Society. The estate is close to Tooting-common, close to the parish church, and also to the new Roman Catholic College, now approaching completion. The lots submitted were stated to have frontages to Lucien and Moring roads, it being added that the projected railway from Streatham to Tooting would run close to those roads, whilst the proposed new station would be opposite the estate, which was well laid out, having a double system of drainage, good roads, and kerbed footpaths. All the plots submitted have frontages of 18 ft. and depths of 100 ft., and those sold, about two-thirds of the entire number of plots offered, realised from 42 guineas to 50 guineas each.

Glasgow Exhibition.—The *Art Journal* is about to publish a Glasgow Exhibition number. It will contain about sixty illustrations, including reproductions of the newest designs in Industrial Art, engravings of the most important pictures and sculpture, with several drawings of the exhibits in the Bishop's Palace.

The English Iron Trade.—There is very little alteration in the features of the English iron market this week, the general feeling in the trade being one of suspense and uncertainty as to the future. A fair quantity of iron, however, continues to change hands, or goes into consumption; and the worst that can be said of trade is that it is unprofitable. Yet there are a few satisfactory indications, which are worth being noted. Prices of pig-iron are slightly steadier, and this although the heavy stocks in Connal's Glasgow store, which will soon amount to over a million tons, form a drag upon the market. Shipments of Cleveland and other iron continue favourable, although they are not of the phenomenal proportions of last month. The position of the finished iron and steel trades has been improved by the cessation of the strikes in the shipbuilding industry. Manufactured iron is more enquired after, and prices are held better. Steel is still weak in some markets, but in the north-west it has a firmer tendency. Rail shipments are reported good. The workmen in the shipbuilding yards have resumed employment on the master's terms, which are a five per cent. advance in piece-work, and a betterment of 1s. 6d. per week in time wages. The engineering trade is steadily improving.—*Iron.*

German Architects' and Engineers' Congress.—This Congress will meet on August 13th to 16th at Cologne. Amongst other papers the following will be read:—Stadtbaumeister Stübben, of Cologne, on "Cologne and its Buildings"; Architect Wiethase, of Cologne, on "The former Building Activity in the Rhinelands"; Oberbaudirector Franzius, of Bremen, on "The Customs Union Buildings at Bremen and the Regulation of the Weser"; Geh. Oberbaurath Grüttefien, of Berlin, on "The Recent Reconstructions of the Larger Prussian Railway Termini"; Baurath Peschek, of Paris, on "The Eiffel Tower and other Constructions of the Paris International Exhibition"; Oberbaurath von Schmidt, of Vienna, on "The Cathedrals of Austria and Hungary." At the meeting of delegates to be held on August 11, the following questions will be discussed:—The measurement of the deflection of iron bridges; the connexion of lightning conductors on buildings with gas and water pipes; the re-introduction of the examination of masters in the building trade; the erection of a monument to Semper at Dresden.

Costa Rica.—From a recent report of the British Consul at San José, Costa Rica, we gather that great activity prevails in the building trades there, and there is room for bricklayers' labourers, plumbers, tinsmiths, &c. A knowledge of the Spanish language, though not absolutely necessary, would greatly enhance their probability of success. The climate of the country, on the whole, is healthy, especially in the interior, there being neither excessive cold nor heat during any portion of the year. Among the most important public buildings in progress at San José are a lunatic asylum, at a cost of 15,000*l.*, a school for girls, and in project a custom-house. Several private buildings are also in course of construction, amongst them a new bank for the "Banco de la Union," large buildings for dwelling purposes, stores, &c., and private residences.

Hexham.—New business premises have recently been completed in the Cattle Market, Hexham, for Mr. Thomas Young. The ground-floor is occupied with two commodious shops, with kitchens, bakery, and the usual out-offices at the rear. On the first and second floors are sitting-rooms and bedrooms. Externally the building is faced with Prudham stone with red terra-cotta dressings. The total width of the frontage is 42 ft., and the building has been erected at a cost of 1,119*l.* The works have been carried out by Mr. Wm. Bland, contractor, Hexham, under the superintendence of Mr. Henry Grieves, A.R.I.B.A., of South Shields, the architect.

Building in Nova Scotia.—The Canadian Correspondent of the *Liverpool Journal of Commerce* says that "in all parts of Nova Scotia there is great activity in building, and there is scarcely a town or village that does not show material improvement. A considerable number of Nova Scotians have recently returned from the United States with a large stock of experience, which they intend to utilise for the benefit of themselves and their own country."

Appointment.—Mr. Henry Bushell, P.A.S.I., has been appointed Professor of Quantity Surveying at the Birkbeck Institution.

The Artists' Benevolent Fund.—The 79th anniversary dinner of this Fund was held on Wednesday evening, at the Freemasons' Tavern, when a company of about 100 ladies and gentlemen were present under the chairmanship of the Earl of Derby, President of the Fund. Among the company were Messrs. Lumb Stocks, R.A., C. B. Birch, A.R.A., Thomas Brock, A.R.A., T. H. Maguire, George M. Atkinson, G. G. Kilburne, President of the Artists' Annuity Fund, C. B. Dimond, George H. Dimond, Edgar Wills, Horace Cullen, J. A. Lee, and Lambton Young, secretary. After dinner the Chairman gave the usual loyal toasts, and, in proposing that of "The Queen," observed that the Queen was the Patron of the Artists' Fund, and not in name or form only, for she was, he believed, by far the largest contributor to its funds. The Chairman afterwards gave the toast of the evening. He stated that the Artists' Benevolent Fund, unlike the Annuity Fund, which was self-supporting and in no sense a charity, was for the help of widows and orphans of artists who had contributed to it. Since its institution the Benevolent Fund had distributed 50,000*l*; it now distributed over 1,000*l.* yearly, and it possessed something over 30,000*l.* of invested property. The subscriptions, he was sorry to see, were hardly more than 500*l.* a year, which in a country like this, he ventured to say, was a quite inadequate amount. His lordship briefly told once more the history of the Fund, and in setting forth its claims on the public, gave it as his opinion that a work of art, any more than a work of literature, or of science, was not sufficiently paid for, supposing it to be of real and permanent value, when the price asked had been paid down. The artist, like the author, was a benefactor to the public. He maintained, therefore, that the nation as a whole was a debtor to the profession of art, and he did not see how that debt could be more satisfactorily discharged than by contributing to a fund whose object was to lessen the risk run and mitigate the sufferings of failure in the case of those who hazarded their future on the uncertain chances of artistic success. In the course of the evening subscriptions to the amount of 503*l.* 9s. were announced.

German Exhibition for the Prevention of Accidents.—An Exhibition of appliances and suggestions for the prevention of accidents will be held at Berlin from April to July, 1889. The exhibits will consist in machinery, apparatus, tools, samples of work and material, models, plans, drawings, photographs, and descriptions, as well as rules and factory regulations, and books, all having reference to accidents and the prevention of accidents. Foreign exhibitors will be admitted. Applications for space should be addressed, not later than July 1, to "Herrn Director Max Schlesinger, Berlin, S.W., Kochstrasse 3."

Barnard's Inn, Holborn.—This freehold property was offered for sale at the Auction Mart, on Wednesday, by Messrs. Fox & Bousfield. It covers an area of 28,000 ft. The existing buildings, in addition to the hall and library of the Inn, include sixteen houses, suites of chambers and offices, shops, and a fully-licensed tavern. The estimated annual value of the property, including the value of the small part in hand, is 2,600*l.* a year. The biddings opened by an offer of 30,000*l.*, and 49,400*l.* having been reached, without any further advance, the property was withdrawn.

Enamelled Copper Letters.—Mr. J. Willing, of Clerkenwell green, has submitted to us specimens of his patent enamelled copper letters, numbers, trade-marks, &c., which can be affixed to glass and other materials with cement. They are light, cheap, and difficult to injure. Given a good cement with which to attach them (and of course Mr. Willing says he can supply a good cement for the purpose), the letters are practically indestructible.

Surveyorship Appointment.—Mr. H. T. Wakelam, Assoc. M. Inst. C.E., Borough Surveyor of Oswestry, has been unanimously elected Engineer and Surveyor to the Garston District, Liverpool. There were nearly 150 candidates for the appointment.

Diocesan Surveyor for Rochester.—Messrs. Day, Heighton, R. L. Hesketh, and H. Lovegrove attended at the Bishop's Palace, Selsdon Park, Croydon, on the 15th inst., when Mr. Heighton was elected as an additional Diocesan Surveyor.

Plumbing in New York.—From July 1 all plumbing in new houses in New York is to be tested by pressure to make sure that the joints are tight and the material is good. The rules made by the New York Health Commissioners, and which will come into force on that date, provide that the plumbers shall test all the drain and vent pipes in the presence of a plumbing inspector by a pressure test to be applied by the inspector. Proof that the test has been made will be required by the Department of Public Works before connexion with the Croton water mains will be permitted.

A Richly-carved Altar-Table, in oak, from the studio of Mr. James Forsyth, has just been placed in St. James's Church, Paddington. It is the gift of a lady member of the congregation, to which a very beautiful altar-cloth has been added, the gift of another lady member.

PRICES CURRENT OF MATERIALS.

TIMBER.	£.	s.	d.	£.	s.	d.
Greenheart, B.G. ....ton	6	10	0	7	10	0
Teak, E.I.....load	8	0	0	12	10	0
Sequoia, U.S.....foot cube	0	2	3	0	3	0
Birch, Canada .....load	2	15	0	4	15	0
Fir, Dantsic, &c.	2	0	0	4	0	0
Oak ,, ...	2	0	0	4	10	0
Canada	4	0	0	6	10	0
Pine, Canada red	2	10	0	3	10	0
,, yellow	2	10	0	4	0	0
Lath, Dantsic.....fathom	3	10	0	5	0	0
St. Petersburg.....	5	0	0	6	0	0
Wainscot, Odessa, crown.....	2	10	0	3	0	0
Deals, Finland, 2nd and 1st...std.	8	0	0	9	10	0
,, 4th and 3rd.....	6	10	0	7	10	0
Riga	6	0	0	7	10	0
St. Petersburg, 1st yellow	9	10	0	14	10	0
,, 2nd ,, ...	8	0	0	9	0	0
,, white	7	0	0	10	0	0
Swedish.....	7	0	0	15	10	0
White Sea	8	0	0	17	0	0
Canada, Pine, 1st	14	0	0	23	0	0
,, ,, 2nd	9	0	0	15	0	0
,, ,, 3rd, &c.	7	6	0	9	10	0
,, Spruce, 1st	8	0	0	9	10	0
,, 3rd and 2nd	6	0	0	7	10	0
New Brunswick, &c.	6	0	0	7	5	0
Battens, all kinds	4	10	0	11	0	0
Flooring Boards, sq., 1 in., prepared, First.....	0	10	0	0	12	0
Second	0	7	0	0	9	6
Other qualities	0	4	6	0	6	6
Cedar, Cuba.....foot	0	0	3½	0	0	4
Honduras, &c.....	0	0	3½	0	0	3½
Australian	0	0	2½	0	0	3½
Mahogany, Cuba	0	0	4½	0	0	6
St. Domingo, cargo average	0	0	4½	0	0	6
Mexican ,, ...	0	0	4	0	0	4½
Tobasco ,, ...	0	0	4½	0	0	5½
Honduras ,, ...	0	0	4½	0	0	5½
Rose, Rio .....ton	8	0	0	11	0	0
Box, Turkey	5	0	0	12	0	0
Walnut, Italian .....foot	0	0	4	0	0	5½
METALS.						
IRON—Bar, Welsh, in London...ton	4	17	6	5	0	0
,, ,, at works in Wales ...	4	7	6	4	10	0
,, Staffordshire, London.....	5	5	0	7	0	0
COPPER—						
British, cake and ingot..... ton	76	0	0	0	0	0
Best selected	77	0	0	0	0	0
Sheets, strong	88	0	0	0	0	0
Chili, bars	82	10	0	0	0	0
YELLOW METAL.....lb.	0	0	7½	0	0	7½
LEAD—						
Pig, Spanish .....ton	12	5	0	0	0	0
English, common brands	12	10	0	12	11	3
Sheet, English.....	13	10	0	0	0	0
SPELTER—						
Silesian, special .....ton	16	0	0	16	5	0
Ordinary brands.....	15	10	0	16	0	0
TIN—						
Straits .....ton	80	10	0	0	0	0
Australian	80	10	0	0	0	0
English Ingots.....	89	0	0	0	0	0
ZINC—						
English sheet.....ton	19	0	0	19	10	0
OILS.						
Linseed .....ton	18	5	0	18	7	6
Cocoanut, Cochin	25	10	0	26	0	0
Ceylon	22	10	0	0	0	0
Palm, Lagos	20	0	0	20	10	0
Rapeseed, English pale	24	10	0	0	0	0
,, brown	23	0	0	0	0	0
Cottonseed, refined	20	15	0	0	0	0
Tallow and Oleine	25	0	0	45	0	0
Lubricating, U.S.	5	15	0	6	0	0
,, refined	7	0	0	12	0	0
TURPENTINE...						
American, in casks.....cwt.	1	9	0	0	0	0
TAR—						
Stockholm .....barrel	0	15	9	0	0	0
Archangel	0	9	6	0	0	0

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *Noon on Thursdays.*]

ASCOT.—For alterations and additions to Mr. J. C. Pither's premises, High-street, Ascot:—

Watson, Ascot	£248 0 0
Charman, Ascot	223 0 0
Trust, Ascot	220 0 0

BATTERSEA.—For partially pulling down and executing repairs at the Original Woodman beer-house, 36, High-street, for Mr. G. Edwards. Mr. F. A. Winder, architect:—

F. P. Treweeke (accepted)	£215 0 0

[No competition.]

CONTRACTS AND PUBLIC APPOINTMENTS.

Epitome of Advertisements in this Number.

CONTRACTS.

Nature of Work, or Materials.	By whom required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page.
Water Vans	Chelsea Vestry	*Official*	June 26th	ii.
New Street and Sewer	do.	do.	do.	ii.
Sewage Tank Covering	West Ham Council	Lewis Angell	do.	ii.
Kerbing	Dartford Local Board	R. B. Stephens	June 28th	ii.
Vans, Carts, Hire of Horses and Drivers, &c.	St. Martin's-in-the-Fields Vestry	H. Jacques	do.	viii.
Kerbing, &c.	Mortlake Highway Bd.	J. Medworth	June 30th	viii.
Embankment, River Wall, &c.	Reading Corporation	*Official*	do.	ii.
Forming and Making New Roads, Windsor		T. V. H. Davison	do.	ii.
Sewage Works	Atherstone R. S. A.	B. Latham	do.	ii.
Steam Disinfecting Apparatus	Hornsey Local Board	T. De Courcy Meade	July 2nd	ii.
Broken Granite and Edge Kerb	Bermondsey Vestry	*Official*	do.	ix.
Wood Paving Blocks	St. Marylebone Vestry	do.	do.	ix.
Works at Battersea and Victoria Parks	Met. Board of Works	do.	July 3rd	viii.
Paving Works	Brentford Local Board	— Lacey	do.	ix.
Main Drainage Works	Belfast Corporation	J. C. Bretland	July 4th	ii.
Stables, Fire-Engine House, &c.	Ealing Local Board	C. Jones	July 5th	viii.
Church, St. Helens, Swansea	Rev. Canon Smith	Nicholson & Son	July 7th	ii.
Excavation, Brickwork, and Ironwork	Metropolitan Railway Co.	*Official*	July 9th	viii.
Construction of Aqueduct	Manchester Cor. Wtrwks	G. H. Hill	July 10th	ii.
Station Building at Chipping Norton	Gt. Western Railway Co.	*Official*	do.	ii.
Broken Granite	Harrow Local Board	F. N. Cowell	do.	viii.
Stone and Iron Bridges	Sheffield Corporation	R. Davidson	July 14th	viii.
Pipe-Sewers, &c.	Barnet Local Board	W. H. Mansbridge	July 16th	viii.
Annual Repairs to Buildings, &c.	School Brd. for London	*Official*	Not stated	viii.
New Schools and other Works	do.	do.	do.	viii.
Warming Schools	do.	do.	do.	viii.
Painting and other Works	War Department	do.	do.	viii.
Jubilee Clock Tower	Margate Town Council	H. A. Cheers	do.	ix.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.	Page
Clerks of Works	School Brd. for London	3*l.* 3s. per week	June 30th	xiv.
Assistant Borough Surveyor	Belfast Corporation	300*l.*	July 3rd	xiv.
Assistant Surveyor of Buildings	Civil Service Com.	Not stated	July 10th	xiv.

BEDFORD.—For the erection of a corn-store, Bedford, for Messrs. Hipwell & Sons. Messrs. Usher & Anthony, architects, Bedford:—

Kilpin & Billson	£408 0 0
Warton & Walker	400 0 0
Laughton	398 0 0
Haynes	381 0 0
White	377 0 0
Foster	374 0 0
Knight	373 0 0
Henson, Wellingborough	370 12 8
Freshwater	370 0 0
Gell	355 0 0
Harrison (accepted)	348 0 0

BEDFORD.—For the erection of new Volunteer Fire Brigade station at Bedford. Messrs. Usher & Anthony, architects:—

Freshwater & Sons	£932 0 0
Potter	930 0 0
Ball	921 0 0
Baker (accepted)	918 0 0

BEDFORD.—For alterations to the Harpur Arms, Horne-lane, Bedford. Messrs. Usher & Anthony, architects:—

White	£117 0 0
Gell	116 0 0
Foster	109 8 0
Freshwater (accepted)	109 0 0

BRIXTON.—For the erection of six houses and shops in Electric-avenue, Brixton-road. Messrs. R. & F. R. Evans, architects, Wimbledon:—

Brown	£7,077 13 0
Macey	6,717 0 0
J. Beer	6,660 0 0
Kirk & Randall	6,636 0 0
Stimpson & Co.	6,580 0 0
Holliday & Greenwood	6,477 0 0
Leslie & Knight	6,373 0 0
T. Gregory & Co.	6,187 0 0
W. & F. Croaker	6,163 0 0
Dickinson	5,343 0 0

CLERKENWELL.—For erecting premises at Little Sutton-street, Clerkenwell. Mr. R. W. Hobden, architect. Quantities supplied:—

Scotney	£539 0 0
Jackson & Todd	529 0 0
Exton & Burton	523 0 0
Lusk	516 0 0
Coulsell Bros.	493 0 0
Allard	475 0 0
Cook	430 0 0
Brown, Son, & Co.	425 0 0

CROYDON.—For the erection of a block of five business premises, North End, Croydon. Mr. Alfred Broad, architect, Croydon. Quantities by the architect:—

Sawle, Worthing	£5,363 0 0
Leslie & Knight, Kensington	4,920 0 0
F. R. Docking, Croydon	4,858 0 0
J. & J. Greenwood, London	4,808 0 0
Ward, Warlingham	4,756 0 0
King, Bros., & Co., Norwood	4,737 0 0
Brickell, Kensington	4,715 0 0
Smith & Sons, Norwood	4,715 0 0
Saunders, Croydon	4,689 0 0
Page, Croydon	4,672 0 0
J. & C. Bowyer, Norwood	4,648 0 0
Holt, Croydon	4,607 0 0
Marriage, Croydon	4,590 0 0
Smith & Bulled, Croydon	4,588 0 0
Barker, Croydon	4,576 0 0
Idle, Clapham	4,547 0 0
H. T. Hart, London	4,505 0 0
J. O. Richardson, Peckham*	4,438 0 0
Bishop, Bros., & Marston, Islington	4,332 0 0

* Accepted.

EDMONTON.—For road-making and sewerage works on the St. Mary's Estate at Edmonton. Messrs. Borer & Dobb, surveyors:—

F. Lacey, Edmonton	£1,080 0 0
E. Wilson, Walthamstow	998 0 0
J. H. Mollett, Islington	950 1 2
T. Hall, Rugby	922 0 0
A. Brickell, Kensington	895 0 0
A. T. Catley, Lloyd-square, W.C.	884 0 0
W. Langridge, Croydon	868 0 0
J. C. Trueman, South Hackney	845 0 0
H. Potter, Lower Clapton	844 0 0
G. Bell, Tottenham	758 0 0
Nowell & Robson, Kensington	750 0 0
Rackham & Bentham, Colchester	737 0 0
J. Bloomfield, Tottenham	725 5 4
W. Nicholls, Wood Green	695 0 0
T. Adams, Kingsland (accepted)	659 0 0

[Surveyors' estimate, £750.]

HASTINGS.—For alterations and additions to steam flour-mill, Mann-street, for the Queen's-avenue Stores and Machine-made Bread Factory, Limited. Mr. Philip Henry Tree, architect, St. Leonard's-on-Sea:—

Factory.

A. White	£925 0 0
J. Lester	887 0 0
H. Cruttenden	873 0 0
Moon & Gardner	857 0 0
Eldridge & Cruttenden	834 0 0
P. Jenkins	824 0 0
T. Salter	796 0 0
F. J. Cruttenden	761 0 0

Shop Fittings.

Eldridge & Son	492 0 0
G. Vigor	480 0 0
T. Salter	457 0 0
A. White	450 0 0
Eldridge & Cruttenden	349 0 0
H. Cruttenden	344 0 0
F. J. Cruttenden	292 0 0

HORNSEY.—For making-up portions of Brook, Eastfield, and Wightman roads, for the Hornsey Local Board. Mr. T. de Courcy Meade, engineer and surveyor:—

	Brook-road	Eastfield-road	Wightman-road
Aspinall & Sons, Finsbury Park	£142 0	£160 0 0	£1,422 0
Jackson & Sons, Finsbury Park	127 0	145 0 0	1,350 0
Mowlem & Co., Westminster	124 0*	140 0 0*	1,288 0
J. Adams, Kingsland	124 18	141 8 6	1,263 6*

* Accepted.

HORSHAM.—For additions and alterations to The Grange, St. Leonard's Forest, Horsham. Mr. William Buck, architect, Horsham:—

Longley, Crawley	£1,402 0 0
Cook, Crawley	1,396 0 0
Peters, Horsham	1,240 0 0
Rowland Bros., Horsham (accepted)	1,124 0 0

LEYTON.—For alterations and new fittings at the Coach and Horses Tavern, Leyton, for Mr. J. T. Simpson. Mr. F. A. Ashton, architect, 177, Romford-road, Stratford:—

W. Buckle	£595 0 0
A. Nicholls	531 0 0
Hearle & Son (accepted)	530 0 0

LONDON.—For alterations and additions to premises, Old Kent-road, for Mr. T. Summers. Messrs. Quilter & Woodhouse, architects:—

Faulkner	£4,267 0 0
Higgs & Hill	4,242 0 0
Rider & Son	4,015 0 0
Battley	3,887 0 0
Kynoch	3,790 0 0
W. & F. Croaker (accepted)	3,578 0 0

LONDON.—For rebuilding bank premises in Old Broad-street, City, for Messrs. Samuel, Montagu, & Co. Mr. Wm. Kidner, architect, 23, Old Broad-street, E.C. Quantities by Mr. James Barnett, 90, Cannon-street, E.C.:—

Patman & Fotheringham	£11,265 0 0
Geo. Trollope & Sons	10,843 0 0
Kirk & Randall	10,730 0 0
Ashby Bros.	10,368 0 0
Mowlem & Co.	10,355 0 0
Robert Aviss	10,285 0 0
Outhwaite & Son	10,131 0 0
James Morter	9,987 0 0
Colls & Sons	9,888 0 0
E. Lawrance & Sons	9,885 0 0
Grover & Son	9,884 0 0

LONDON.—For a second extension of offices in Old Broad-street, for the Managers of the Stock Exchange. Mr. J. J. Cole, architect, 24, Finsbury-circus, E.C. Quantities by Mr. James Barnett, 90, Cannon-street, E.C.:—

A. Bush	£4,370 0 0
J. T. Chappell	4,185 0 0
Ashby Bros.	4,090 0 0
E. Lawrance & Sons	4,055 0 0
Colls & Sons (accepted)	3,888 0 0

LONDON.—For alterations to The Shaftesbury, Shaftesbury-road, Hoxton, for Mr. J. T. Sweet. Messrs. Wylson & Long, architects, 21, King William-street, W.C. Quantities supplied by Mr. Arthur W. Saville, 99, Strand, W.C.:—

W. Oldrey & Co.	£1,294 0 0
R. S. Parker	1,289 0 0
J. T. Chappell	1,234 0 0

LONDON.—For rebuilding the Falcon, Green-street, Bethnal Green, for Messrs. Watney & Co., Limited. Mr. G. J. Ensor, architect. Quantities supplied by Mr. Arthur W. Saville, 99, Strand, W.C.:—

Lawrence & Son	£3,395 0 0
Chappell	3,370 0 0
Harris & Wardrop	3,293 0 0
Prestige & Co.	3,272 0 0
Patman & Fotheringham	3,235 0 0
Ashby & Horner	3,025 0 0
Oldrey & Co. (accepted)	2,994 0 0

LONDON.—For sundry works in reinstating premises destroyed by fire, at 426, Oxford-street, for Messrs. Barrett Bros.:—

Wetherilt, Lee, & Martin (accepted)	£172 12 0

LONDON.—For erecting water-closet projections and additions to lunatic ward, at the Whitechapel Union Infirmary, for the Guardians of the Whitechapel Union. Mr. Bruce J. Capel, architect, 70, Whitechapel-road. Quantities by Mr. Max Clarke, 2, John-street, Bedford-row:—

	W.C. Wings.	Alterations to Lunatic Ward.	Total.
J. R. Hunt, St. Paul's-road, Bow-common*	£1,225	£102	£1,327

* Accepted.

[For full list of tenders submitted, see last week's *Builder*, p. 439.]

LONDON.—For the erection of Block 3, model dwellings, at the rear of 6, Elwood-street, Islington. Mr. C. Chapman, architect:—

Harrison	£747 10 0
Marshal	670 0 0
Collins	649 10 0
Jackson	645 0 0
Smith	635 0 0

[Architect's estimate, £650.]

LONDON.—For erecting a school-keeper's house at the Battersea Park School (West Lambeth BF), and for erecting additional water-closets for the girls and infants, for the School Board for London. Mr. T. J. Bailey, architect:—

R. T. Ronald	£870 0 0
King Bros. & Co.	802 0 0
A. Martin	795 0 0
H. H. Hollingsworth	747 0 0
Stimpson & Co.	725 0 0
J. & C. Bowyer	698 0 0
J. Holloway	690 0 0
W. F. Russell	687 10 0
J. Channon	687 0 0
Norris & Luke	621 0 0
G. Howard	608 0 0
T. Bendon	598 10 0
Simmonds Bros., College-st., Chelsea*	588 0 0
W. Johnson	585 0 0
F. R. Turtle	572 0 0
Newton & Idle	564 0 0

* Recommended by the Works Committee for acceptance.

LONDON.—For tar paving at the schools mentioned, for the School Board for London. Mr. T. J. Bailey, architect:—

Blackstock-road, Finsbury (A.Z.²).

Providing and laying about 4,630 square yards of tar pavement in the playgrounds:—

	Per sq. yard.
W. H. Bensted & Son	2s. 2½d.
G. Rutty	2 1
W. G. Constable & Co.	2 0
A. C. W. Hobman & Co.	2 0
J. Smart*	1 10½

[Total amount of lowest tender, £434. 1s. 3d.]

Montem-street, Finsbury (BB¹).

Providing and laying about 2,036 square yards of tar-pavement in the playgrounds:—

	Per sq. yard.
W. H. Bensted & Son	2s. 2½d.
G. Rutty	2 1
W. G. Constable & Co.	2 0
A. C. W. Hobman & Co.	2 0
J. Smart*	1 10½

[Total amount of lowest tender, £190. 17s. 6d.]

Dennett's-grove, Finsbury (T¹).

Providing and laying about 4,470 square yards of tar-pavement in the playgrounds:—

	Per sq. yard.
G. Rutty	2s. 1d.
W. H. Bensted & Son	2 0½
W. G. Constable & Co.	2 0
A. C. W. Hobman & Co.*	1 11

[Total amount of lowest tender, £428. 7s. 6d.]

* Recommended by the Works Committee for acceptance.

LONDON.—For building club-room and stables, and sundry alterations and repairs, at the Ship public-house, Stepney Green, E., for Mr. Short :—

W. H. Lascelles & Co.	£640	0	0 !
John & Henry Cocks	599	0	0
Hearle & Son	598	0	0
A. Hood	378	0	0 !

LONDON.—For alterations and additions to 107, 108, and 109, Leadenhall-steeet, for Mr. J. T. Morton, under the superintendence of Mr. William Eve, 10, Union-court, Old Broad-street, E.C. :—

Dabbs	£910	0	0
Spencer	835	19	6
Godfrey	821	0	0
Harris & Wardrop	788	0	0
Heiser	751	0	0
Lascelles, Bunhill-row, E.C. (accepted)	746	0	0

LONDON.—For erecting warehouse at Millwall, for Mr. J. T. Morton, under the superintendence of Mr. William Eve, 10, Union-court, Old Broad-street, E.C :—

Godfrey & Son	£2,530	0	0
Harris & Wardrop	1,896	0	0
Dabbs	1,895	0	0
Salt	1,889	0	0
Higgs	1,888	0	0
Potter, Redwald-road, Clapton*	1,760	0	0

* Accepted.

NEW BROMPTON.—For erecting Baptist chapel and schoolroom, New Brompton, near Chatham. Mr. John Wills, architect, Derby :—

Higgs	£4,073	0	0
Wiltshire	3,749	0	0
Skinner	3,634	0	0
Edser & Bockham	3,459	0	0
Callund & Son	3,380	0	0
Naylar & Sons, Rochester (accepted)	3,298	0	0

PUTNEY.—For new day-room, &c., for male patients at the Royal Hospital for Incurables, West Hill, Putney. Messrs. Searle & Hayes, architects, 66, Ludgate Hill, E.C :—

Dobson, Colchester	£1,980	0	0
Patrick & Son	1,973	0	0
J. Holloway	1,940	0	0
J. & J. Greenwood	1,930	0	0
J. Parsons	1,897	0	0
Patman & Fotheringham (accepted)	1,853	0	0

SOUTHGATE.—For erecting and completing a dwelling-house at Chase-side, Southgate, for Mrs. Caroline Deakin. Mr. Arthur Saville, architect, 99, Strand, W.C. Quantities supplied :—

L. & W. D. Patman	£1,498	0	0
Spencer & Co.	1,400	0	0
R. S. Parker	1,381	0	0
W. Oldrey & Co.	1,366	0	0
Ward & Lamble	1,337	0	0
Chas. Newby	1,275	0	0
S. Yardley & Sons	1,255	0	0
John Walker	1,198	0	0
S. Goodall (accepted)	1,045	0	0

SPITALFIELDS.—For erecting dwelling-houses and business premises in Pelham-street and Spelman-street, Spitalfields, for Mr. H. Foster. Mr. R. W. Hobden, architect. Quantities supplied :—

Eaton	£2,896	0	0
Little	2,798	0	0
Outhwaite & Son	2,594	0	0
Owen Scotney	2,576	0	0
Hunt	2,500	0	0
Jackson & Todd	2,489	0	0
Brown & Son	2,450	0	0
Lyford	2,400	0	0
Exton & Burton	2,274	0	0
Coulsell Bros.	2,225	0	0
Loveday	2,225	0	0
Allard	2,124	0	0

STRATFORD.—For the erection of concert-hall and billiard-room at the Stratford New Town Conservative Club, Leytonstone-road. Mr. F. A. Ashton, architect, 177, Romford-road, Stratford :—

J. & F. Bane (accepted)	£393	0	0

STRATFORD.—For alterations and repairs at the Bay Tree Tavern, Vicarage-lane, Stratford, for Mr. F. Russell. Mr. F. A. Ashton, architect, Stratford :—

J. Mansell	£348	0	0
Bishop & Webb	339	0	0
W. Buckle	303	0	0
J. Boddy	298	0	0
S. Salt	280	0	0
A. Nicholls	279	0	0
Hearle & Son	273	0	0
J. & F. Bane (accepted)	248	0	0

WALTHAMSTOW.—For rebuilding the Lorne Arms, Walthamstow, for Mr. G. L. Went. Mr. F. A. Ashton, architect, 177, Romford-road, Stratford :—

Hearle & Son (accepted)	£1,040	0	0

WALTHAMSTOW.—For the erection of three cottages in Queen's-road, Walthamstow, for Mr. G. L. Went. Mr. F. A. Ashton, architect, Stratford :—

Hearle & Son (accepted)	£660	0	0

WANDSWORTH.—For improvements at The Cedars, Lavender Hill, Wandsworth. Mr. R. A. Lewcock, architect, 88, Bishopsgate-street Within, E.C. :—

J. Ivory	£918	0	0
Mower & Son	912	0	0
Garrett & Son	896	0	0
Steel Bros.	890	0	0
Spencer & Co.	875	0	0

SUBSCRIBERS in LONDON and the SUBURBS, by prepaying at the Publishing Office, 19s. per annum (or 4s. 9d. per quarter), can ensure receiving "The Builder" by *Friday Morning's post.*

TO CORRESPONDENTS.

Registered Telegraphic Address, "THE BUILDER, LONDON."

S. W. D. (thanks).—C. P.—S. J. R.—A. F. (the information has already been given in our columns).—"A Pimlico Man" (we have reason to believe that the reports of unfair dealing are not well founded in this case).

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication

We are compelled to decline pointing out books and giving addresses.

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news-items) which have been duplicated for other journals, are NOT DESIRED.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; all communications relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TERMS OF SUBSCRIPTION.

"THE BUILDER" is supplied DIRECT from the Office to residents in any part of the United Kingdom at the rate of 19s. per annum PREPAID. To all parts of Europe, America, Australia, and New Zealand, 26s. per annum. To India, China, Ceylon, &c. 30s. per annum. Remittances payable to DOUGLAS FOURDRINIER, Publisher, No. 46, Catherine-street, W.C.

W. H. Lascelles & Co.

121, BUNHILL ROW, LONDON, E.C.

Telephone No. 270.

HIGH-CLASS JOINERY.

LASCELLES' CONCRETE.

Architects' Designs are carried out with the greatest care.

CONSERVATORIES,
GREENHOUSES,
WOODEN BUILDINGS.

Bank, Office, & Shop Fittings.

CHURCH BENCHES & PULPITS.

ESTIMATES GIVEN ON APPLICATION.

Best Bath Stone.

CORSHAM DOWN. | FARLEIGH DOWN.

BOX GROUND. | COMBE DOWN.
WESTWOOD GROUND. | STOKE GROUND.

The BATH STONE FIRMS, Limited.
HEAD OFFICES: BATH.

DOULTING FREESTONE.

THE CHELYNCH STONE. The stone from these quarries is known as the "Weather Beds," and is of a very crystalline nature, and undoubtedly one of the most durable stones in England.

THE BRAMBLEDITCH STONE. Is of the same crystalline nature as the Chelynch Stone, but finer in texture, and more suitable for fine moulded work.

Prices, and every information given, on application to CHARLES TRASK & SONS, Doulting, Shepton Mallet.

London Agent—Mr. E. A. WILLIAMS, 16, Craven-street, Strand, W.C. [ADVT.

HAM HILL STONE.

Greater facilities have been provided for working these quarries, and the stone can be supplied in large quantities at short notice.

Prices, and every information given, on application to the HAM HILL STONE CO., Norton, Stoke-under-Ham, Somerset.

London Agent—Mr. E. A. WILLIAMS, 16, Craven-street, Strand, W.C. [ADVT.

Asphalte.—The Seyssel and Metallic Lava Asphalte Company (Mr. H. Glenn), Office, 38, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds, and milk-rooms, graneries, tun-rooms, and terraces. [ADVT.

Asphalte.
Seyssel, Patent Metallic Lava, and White Asphaltes.
M. STODART & CO.,
Office:
No. 90, Cannon-street, E.C. [ADVT.

SPRAGUE & CO.,
LITHOGRAPHERS AND PRINTERS,
Estate Plans and Particulars of Sale promptly executed.
22, Martin's-lane, Cannon-street, E.C. [ADVT.

ELECTRIC BELLS and BURGLAR ALARMS (NEW SYSTEM).
Estimates Free on Application to—
MAYFIELD, COBB, & CO., LIMITED
35A and 41, Queen Victoria-street.

THE NEW PATENT BURGLAR ALARM CONTACT is more easily fixed than any other, and CANNOT GET OUT OF ORDER.

Write for Particulars. [ADVT.

MICHELMORE & REAP,
Manufacturers of

COLLINGE'S PATENT HINGES, LEVER, SCREW, & BARREL BOLTS,
Self-Acting "FALL DOWN" GATE STOPS, and IMPROVED GATE FITTINGS of every Description
36A. BOROUGH ROAD, LONDON, S.E.
PRICES REDUCED. LIST SENT ON APPLICATION.

F. BRABY & CO.'S PATENT GLAZING.

GLASS SET FREE,

ALLOWING EXPANSION AND CONTRACTION, AND PRECLUDING BREAKAGE.

ABSOLUTELY WATERTIGHT. PAINTING AND PUTTY SUPERSEDED.

OVER THREE MILLION FEET FIXED.

DRAWINGS AND PRICES ON APPLICATION.

- MODELS AND SECTIONS ON VIEW. -

LONDON: 352 to 362, EUSTON ROAD.
LIVERPOOL: 6 and 8, HATTON GARDEN.
GLASGOW: 47 & 49, ST. ENOCH SQUARE.